Are People "Through" at 65?

How to Save a Life

Work During Pregnancy

today's health

JUNE 1952 35c

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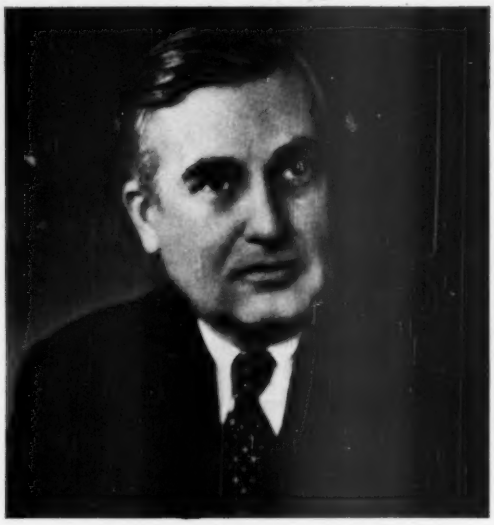

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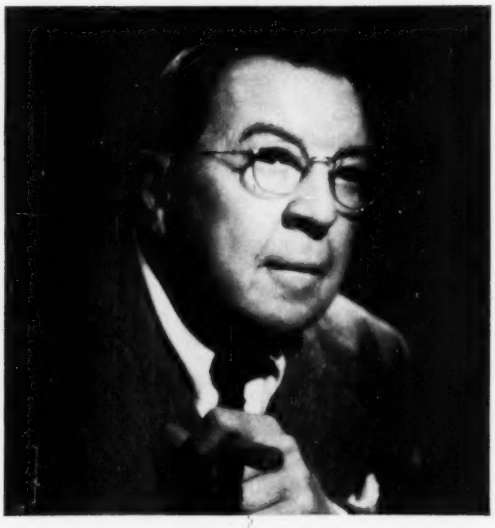

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JUNE 1952 VOL. 30 • NO. 6

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Edited by W. W. BAUER, M. D.

ELLWOOD DOUGLASS, Managing Editor
CHARLES TURZAK, Art Director
PATRICIA JENKINS, Ass't. Managing Editor
WILLIAM BOLTON, M.D., Associate Editor
FRANK V. CARGILL, Director of Circulation
THOMAS R. GARDINER, Business Manager

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A PLATFORM FOR TODAY'S HEALTH

Clean air over our cities
Public health services for every county
Voluntary sickness and hospital insurance for all self-supporting people, and community aid for those in need
Clean, wholesome food and drink for everybody

Health education and health protection for every child in school
Physical education adapted to the age and capacities of every child
A family doctor for every family
A fight against fraud and quackery

TODAY'S HEALTH is dedicated to this platform, in harmony with the 12 point Health Program of the American Medical Association. These objectives are immediate focal points toward which the policy of TODAY'S HEALTH is specifically directed.

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Radioactive Springs

Question. Are there any natural springs or spas in this country with radioactivity in the water? I should think this might be of some curative value.

Montana

Answer. According to the Council on Physical Medicine and Rehabilitation of the American Medical Association, a few of the natural springs in the United States have waters with slight radioactivity. However, it is of such low intensity that it could not be considered of any significance. The radioactivity emitted is about the same as that produced by a luminous wrist watch dial.

Lung Re-expansion

Question. A discussion you carried recently about artificial pneumothorax said that such a patient could not expect to have the use of his collapsed lung again. It seems to me this is somewhat misleading, because you mentioned that the injected air is absorbed, and I suppose the lung would re-expand. Isn't that correct?

New York

Answer. Undoubtedly it would have been more exact to have used the term "permanently collapsed" in the discussion mentioned. As the injected air is absorbed, at least partial expansion of the lung will occur. In this connection, the following comment has been received from the American Trudeau Society, the medical section of the National Tuberculosis Association:

"Artificial pneumothorax has assisted thousands upon thousands of patients to recover from their lung tuberculosis. After it is discontinued, the function of the lung is slightly less than before, but the lung is of considerable use again.

"While it is true that a totally collapsed lung is of no use, the aim of the pneumothorax is to compress the lung to a relative degree, not to put it out of commission. After pneumothorax treatments are stopped, the air is absorbed. The lung usually re-expands and begins to function. However, in some instances when a complication such as empyema (infection) or thickened pleura develops, the lung is put out of commission entirely.

"In many areas the use of pneumothorax is decreasing, mainly because of the dire effects of these complications. Its use these days is proper in well chosen cases when the type of collapse is selective and purposeful, but where major chest surgery is available pneumothorax is gradually losing its popularity."

Perspiration Problem

Question. For over 20 years I have been troubled with the problem of excessive perspiration of the armpits. I have used many commercial products with no success. As deodorants they are good, but as antiperspirants they completely fail. Now I have a 12 year old daughter who has exactly the same problem. It is very embarrassing, and I would appreciate any advice on what we might do.

New Hampshire

Answer. Antiperspirants seem to vary in efficiency with the user and the conditions of use. Some claim that there is a complete inhibition of perspiration flow in the underarm area; others claim only a reduction in the amount of perspiration. In order to assure the best results, directions must be followed carefully. The exact mechanism by which these antiperspirants act is not thoroughly understood. Probably the production of perspiration by the glands beneath the skin is in no way affected, but the openings of these glands on the skin are in some way blocked. This is not harmful when limited to small areas. Your letter indicates that it might be wise for you to talk over with your doctor the possibility of specific treatment. But it must be recognized that many people permit themselves to become unduly disturbed and to exaggerate the amount of perspiration actually present. Helpful measures for control of perspiration are now available, some taken internally and others applied locally. We feel sure your doctor can decide what is best for you and your daughter.

Alcohol and Sedatives

Question. A friend has told me that many of the apparent suicides one reads about in the papers are not actually that but the result of heavy drinking on a "night out" followed by a couple of sedative pills on going to bed. Do you think there is anything to this?

New York

Answer. According to information provided by the Council on Pharmacy and Chemistry of the American Medical Association, barbiturates, which are the active agent in a great percentage of the sleeping pills now used so widely, are closely similar to alcohol in their pharmacologic effects. This emphasizes the popular misconception that alcohol is a stimulant. Actually, it has a depressing effect on the nervous system. The "stimulation" is simply the irrational conduct resulting from release of nervous control, this release being the result of the sedative effect of the alcohol. It is conceivable that extreme sedation, even to the point of causing death, might occur in a person, who after drinking heavily

Meat Helps Make Americans the World's Best Nourished People

Recent estimates of the U. S. Department of Agriculture show that the per capita consumption of meat in the United States approaches seven ounces per day. How effectively this average amount of meat in the daily diet contributes to making Americans the world's best nourished people is indicated by the following data. The figures give the average amounts of protein, iron, phosphorus, niacin, riboflavin, and thiamine provided by six-ounce servings of cooked meat (averages of the amounts furnished by six ounces each of cooked beef, lamb, pork, and veal)* and their percentages of the daily dietary allowances recommended by the National Research Council for a sedentary man (154 lb.).

	Amounts per 6 oz.† of Average Cooked Meat	Percentages of Recommended Daily Dietary Allowances
Protein (Biologically complete)	44 Gm.	63%
Iron	5.6 mg.	47%
Phosphorus	414 mg.	28%
Niacin	9.5 mg.	79%
Riboflavin	0.44 mg.	24%
Thiamine	0.50 mg.	42%

† 7 oz. of fresh meat, when cooked, weigh approximately 6 oz.

The important nutrients of meat, however, are not limited to those given above, for which the amounts needed for adequate nutrition have been established. Other nutrients provided by meat, but for which daily needs have not yet been established, include other members of the B complex—biotin, choline, folic acid, inositol, pantothenic acid, pyridoxine, and vitamin B_{12}—and many minerals essential in nutrition.

Every cut and kind of meat supplies these many nutrients for promoting health and efficiency in adults, and for health and good growth and development in children. Besides, meat is rapidly and almost completely digested, and its extractives stimulate the flow of gastric juice. Hence there is sound justification—nutritional, physiologic, and psychologic—for meat being a favorite food in the diet of the American people and in special diets prescribed by the physician.

---

*Watt, B.K., and Merrill, A.L.: Composition of Foods—Raw, Processed, Prepared, Agriculture Handbook No. 8, United States Department of Agriculture, Bureau of Human Nutrition and Home Economics, 1950.

The Seal of Acceptance denotes that the nutritional statements made in this advertisement are acceptable to the Council on Foods and Nutrition of the American Medical Association.

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throughout the evening, takes a barbiturate sedative on retiring. It is entirely possible that such a person might inadvertently take more than the recommended dosage, either because of his befuddled state or because he wanted to be sure to sleep soundly. A discussion of this that appeared in the *Journal of the American Medical Association* also emphasized the "additive" effect produced by a combination of alcohol ingestion and the taking of barbiturate sedatives. Of course it would be difficult if not impossible to determine how frequently this may occur, but it is doubtful that it happens often.

Scraping the Gums

Question. Do you advocate scraping the gums after tooth extraction for pyorrhea?

North Carolina

Answer. It is sometimes necessary to scrape the tooth socket after an infected tooth is extracted. No hard and fast rule can be given, however, since the need for this varies with every patient.

Hernia Correction

Question. What can you tell me about the injection treatment for hernia? I have had a hernia in my groin for several years, and the idea of having this fixed without operation appeals to me. Is it a reasonably satisfactory method?

Indiana

Answer. A discussion of this subject that appeared recently in the *Journal of the American Medical Association* stated that the use of injections to correct hernia has not been found satisfactory. Of course it has always been recognized that its applicability was limited to fairly recent small hernias. Follow-up studies have shown that the scar tissue produced by the irritating substance that is injected is absorbed after a time. This is another way of saying that the hernia is not corrected. We can appreciate your desire to obtain a cure without operation, but this is a case where no substitute for it is effective. The fact that your hernia has been present for several years indicates that it does not meet the basic requirements even if the injection treatment were to be considered as a temporary expedient, for the opening probably is no longer small.

Fish as "Brain Food"

Question. How did the idea that fish is "brain food" originate? Is there any special element in the flesh of fish that would make it important?

West Virginia

Answer. At one time it was a popular practice even among scientists to credit one certain substance with exaggerated qualities, and during that period it was theorized that phosphorus was the all-important element so far as brain function was concerned. Of course it is now recognized that all the food substances are important so far as any body function is concerned, and also that excess amounts of any one will be of no special value unless actual deficiencies are present. Since the flesh of fish is especially rich in phosphorus as compared with other dietary items, the idea was advanced that by eating plenty of fish we could improve brain function. At no time, however, was it established that the extra phosphorus assured any unusual intelligence in the fish, whose brain could be presumed to be well supplied. Although the idea has persisted, it is referred to nowadays in a jocular rather than serious vein.

Bloodletting

Question. Can you tell me why the widespread practice of bleeding or bloodletting became so popular in the early days of medicine? Do you suppose it was because the doctors thought they were letting out "poisons" from the body? Did it have any real value?

Vermont

Answer. There was apparently no truly scientific basis for the practice in earlier times of bleeding a patient for practically every disorder from the itch to fainting spells. One theory

points out that the writings of Hippocrates repeatedly mentioned the occurrence of nose bleed or bleeding from the mouth and subsequent rapid return of the patient to health. It may well be that physicians several centuries later read into this a cause and effect significance that led them to try bloodletting as a treatment. That it must have been harmful in many situations can be presumed. Extreme instances would be taking of blood from patients with high fevers, serious infections or marked anemia. It is possible that occasionally some good was done, as for example in persons with high blood pressure or in the rather uncommon condition of polycythemia, when excessive amounts of red blood

Answers given here are limited to brief replies to specific questions. Full discussion is not intended. Questions involving diagnosis or treatment should be referred to the family physician. Dental inquiries are answered through the cooperation of the American Dental Association.

cells are produced. However, the percentage of benefit could not justify the indiscriminate use to which bloodletting was put in those days. We are fortunate that today we use more effective medical treatment.

Fat Digestion

Question. Which is easier to digest, animal fat such as butter or vegetable oil such as oleomargarine? Some people claim that fat made from vegetable oils coats over the stomach and intestines.

Pennsylvania

Answer. The A.M.A. Council on Foods and Nutrition has stated, "When margarine is fortified with vitamin A the investigations that have been made lead to the conclusion that it can be substituted for butter in the ordinary diet without any nutritional disadvantage." This of course indicates that both are digested with equal ease. Neither animal nor vegetable fat is deposited in a coating over the stomach and intestines. They are broken up into tiny globules by the action of bile and pancreatic ferments, and this eliminates the possibility of their forming a coating.

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By Edith M. Stoney

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CATARACT

By James W. Smith, M.D.

As in many other bodily disorders, cataract—clouding of the eye's lens—breeds fear and superstition where reliable, objective information is needed. A common eye ailment, cataract is caused by many things including old age, hardening of the arteries, diabetes and vitamin deficiency diseases. It is not a growth or a tumor or a cancer; it is usually not hereditary. In this easily understood article, Dr. Smith explains the facts about cataracts and associated eye disorders—facts that can help you maintain good general eye health.

YOU CAN'T AFFORD TO BE NEUROTIC

By Richard Lake

That many of us still think it's almost fashionable to be neurotic is surprising. Especially if we consider the frustration and misery nervous disorders produce in millions of people in the United States. No, you can't afford to be neurotic—not only because it may cost you your job, your friends, your happiness, but also because there are not nearly enough psychiatrists and psychotherapists to reach all those who need treatment. The author, a clinical psychologist, does not offer a lavish set of rules to cure every neurosis in the book, but his suggestions will help you to keep on the path of mental security and happiness.

Hospitality can be so easy

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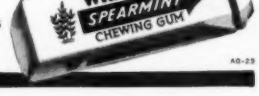

AD-23

THE Editor has been in and out of his corner for a couple of months, but only to get into another corner. Or several.

One of the corners has to do with radio. The American Medical Association has long used this medium for health education—in fact, continuously since 1923. Many things have happened since then, when the Editor—young then—used to improvise in the struggling radio station WRJN at Racine, Wis., doing health shows dramatized by amateurs, with the Editor writing the scripts, his wife producing them and playing the more difficult roles, and the rest of the cast drawn from the high school drama classes. That was fun. And it is still fun to see the great radio—and television—productions of today, where it takes 30 to as many as 120 people to put a script on the air.

Most recently, the Association has broadcast six documentary radio network productions, narrated by the eminent radio, screen and motion picture actor, Charles Laughton. Mr. Laughton brought to his reading of the narration in our scripts not only his magnificent voice and impeccable technique, but a critical appreciation of our purpose, expressed in constructive suggestions as we went along, for which we were grateful. Mr. Laughton's reputation brought us thousands of listeners who had never realized that health information can be dramatically exciting.

• • •

Out of the radio corner into television. Many readers may have passed lightly over the news released last April that the television "freeze" was over. That means more television stations, first in the areas which now have none. Under the new ruling, there will be special channels devoted to education. In

view of the wide interest created by educational programs and public affairs broadcasts on TV, it appears that there is a definite and probably quite large segment of the audience which wants substance and not frippery for its viewing and listening. This audience has been served through radio for years, and many television sponsors are now furnishing excellent programs. But educational television, without commercials, is sure to prove costly, perhaps beyond the means of many educational telecasters. It is certainly out of the question for any medical society to erect and operate an educational television station. In a given community, the only solution seems to be the pooled efforts of all the groups interested in education.

If you can't see television programs on health in your community as frequently as you have heard radio programs by your local medical society, remember cost differences.

• • •

Radio and television bring to mind the Annual Scientific Assembly of the American Medical Association this month in Chicago—the 105th year of the Association and the 99th meeting. Some meetings had to be skipped during war years, as far back as the War Between the States. This meeting brings together doctors from all over the United States for five days of intensive study. There are lectures, papers, panels, discussions, scientific exhibits, televised operations and an extensive technical exposition of manufactured goods and services necessary in the care of the sick. Doctors who must stay at home get the meeting's most important substance through the *Journal of the American Medical Association*.

Readers of *Today's Health* may share to some extent in the newsworthy features of the meeting by radio and television. There will be many features on radio and television, especially on newscasts, women's programs and special events. You'll find them interesting.

• • •

With all their perplexities, many of the corners are nice to be in, and so again you see the Editor, comfortably, contentedly . . . CORNERED.

W. W. Bauer, M.D.

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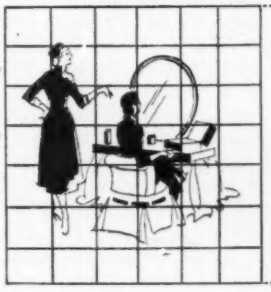

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☐ I am interested in how I may learn to be a Beauty Counselor. (I am over 21.)

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State_____ County_____

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Immunizations and Polio

Question. Will you please tell me whether it is unwise to have my child vaccinated against whooping cough and diphtheria? I have been told that if I do this it might result in his getting polio. Of course I want to keep him from having anything, but now I don't know what to do.

Texas

Answer. This matter has been the subject of much confused discussion, but has been clarified in an excellent résumé issued recently by the National Foundation for Infantile Paralysis. First, it must be appreciated that poliomyelitis is more likely to occur in children than in adults for the same reason that children are more likely to get other diseases such as measles, mumps, diphtheria and whooping cough. They do not have any natural immunity against them, except in the early months of life, when some passive protection may be carried over from the mother. Most adults are immune because they have had such diseases—including poliomyelitis—either in obvious forms or as such mild infections that diagnosis never was made. That is the principal reason why the number of diagnosed polio cases in this country is actually relatively low compared with diseases such as rheumatic fever, measles or chicken pox. Most of the adult population is probably immune.

Physicians have never believed that immunizations against the so-called children's diseases might result in polio. Evidence has been found, however, that in some children who have been immunized and happen to develop polio later, there is a tendency for paralysis to occur in the arm, for example, where immunization injections had been given. This is the only reason why some caution has been recommended in using such immunizations during local polio epidemics. Avoiding them will not protect the child against polio infection, but since more children are likely to be infected during an epidemic, the occurrence of paralysis probably can be reduced by temporarily delaying other immunizations.

Too Much Milk?

Question. Can a child or adult drink too much milk? Would this overtax the kidneys or result in too much calcium and phosphorus in the body? Is more than two quarts of milk a day harmful?

Wisconsin

Answer. It is entirely possible for one to drink too much milk. While this is extremely rare, it emphasizes the fact that a food that is beneficial in moderate amounts can be harmful in excess. In children especially, too much milk may crowd from the diet other foods needed for a sound body.

Under normal conditions the danger of absorbing too much calcium is probably slight since any excess calcium is excreted. The increased fluid of too much milk, however,

Dental questions are often included here through the cooperation of the American Dental Association. *For* Child Training *see page 68.*

should have consideration. We cannot say what amount of milk would be harmful since this would vary from one person to another. Your own physician is in a much better position to advise you on this point than we are. It would seem that two quarts of milk a day would not be injurious to the normal person. It is generally agreed that about one and a half pints of milk a day is adequate for children from infancy to around age ten, and a pint a day is sufficient for adults.

Spinal Fluid Drainage

Question. A friend has told us about an operation by which a child with water on the brain has been saved, and probably will grow up entirely normal. He says that a special connection was made so that fluid from the brain was drained into the bladder. Is this possible, and how is it done? Oregon

Answer. A report in medical literature tells of an ingenious method of draining spinal fluid through a plastic tube inserted near the lower end of the spinal column and extending down to one of the small tubes that conduct urine from the kidney to the bladder. In cases where this can be employed, it will relieve excess accumulations of spinal fluid, and thus prevent damage to the brain and spinal cord from the pressure. It must be emphasized that this operation will work only in infants with free drainage of fluid between the brain and spinal cord areas. If the excess fluid remains within the skull, as it sometimes does, it will obviously do no good to tap the lower spine. The doctor must make sure that both kidneys are functioning normally, because the kidney is removed on the side where the tube from the spine is implanted. There is not yet enough evidence to permit any general statement about permanent effects, but this operation has been recommended as a means of tiding such infants over the first year of life. It will not get at the basic cause of excessive spinal fluid production or failure of the normal absorption process within the central nervous system.

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NO DUST SACK to throw away
NO BAG OF ANY KIND...inside or out

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HERE'S WHAT WE THINK

PERFECTIONISM AND DISABLING DISEASE

IT IS strange that man, who is so seldom perfect, is almost universally emphatic in his desire to have his children without physical or mental flaw. Actually this is the extreme in unmitigated "nerve." By what rhyme or reason can we justify it? But since it is so common, we are generally not even aware of it until it begins to play a part in our behavior. Our maudlin sympathy, patronizing air and out-and-out dislike for the disabled and the deformed is related in substantial degree to this concept of perfection. We look upon the lame, the halt and the blind as "lesser" individuals, second-rate citizens if you please, because they are less able, less attractive, while "we" are without blemish (or notice our own blemishes less).

This point of view has a great deal to do with the way we react when our children have a disabling accident or come down with a disease like poliomyelitis that may leave some physical limitation. Parents who believe that children with physical disabilities are "not perfect" may be correct in the purely literal sense—but then, who among us *is* perfect? This desire for perfection is often unrecognized by the parent, but shows up in the attitude toward the child and his treatment. The mother or father who insists that "Johnny is going to be completely well" or tells the child, "Before long you'll be as good as new," is simply making him feel that a failure to return completely to normal will cost him his parents' love.

Other parents, while not expressing this in such obvious fashion, still say and do things which make a child feel that he is less than adequate. Overprotection, oversolicitousness, are as harmful in many ways as neglect or direct unkindness.

Parents who realize that not one of us is perfect, and that each must learn to make the most of his skills and abilities while recognizing his own limitations, will be most likely to find their disabled child quickly and easily taking hold of life and making a healthy adjustment to it. Even more important, they will have equipped their child to deal with himself, his friends and neighbors with a great deal more of the milk of human understanding.

HART E. VAN RIPER, M.D.
National Foundation for Infantile Paralysis

"BY-MAIL" NOSTRUM FRAUDS

IN THE last five years, the Post Office Department has issued more than 200 fraud orders against by-mail promoters of nostrums and devices for the cure of human ailments or the enhancement of various attributes of the human frame. In addition, an unknown number of such promoters have signed affidavits agreeing to go out of business.

The Post Office Department doesn't say much about this invaluable service. Its inspectors are quietly but constantly on the alert for the quacks who would gladly send you, C. O. D., reducing creams, body builders, rheumatism cures, bust developers, instructions for living to a ripe old age, the secrets of dynamic personality or a scented salve or lotion for a new crop of curly hair. Their promise of your money back if you are not fully satisfied is no defense for them against charges of using the mails to defraud.

Perhaps you have wondered why envelopes have been returned to you marked "Out of Business." More than likely the firm accepted the counsel of the Post Office Department and agreed to go quietly. There is, of course, no doubt if you find "Fraudulent" stamped boldly across your returned remittance envelope. There are fewer and fewer survivors in the lush field of by-mail medical racketeering offering health, beauty, fancy diplomas, or entry into exotic oriental secrets, and their claims are carefully watered.

Frequently, an undeterred promoter will try to get around the post office by moving to a new address, changing his name or giving his product a new and fancier title. Fortunately for us, the inspectors have had lots of experience with that dodge, and they soon catch up.

Our congratulations to the Postal Inspection Service.

OLIVER F. FIELD.
A.M.A. Bureau of Investigation

WHAT DO YOU THINK?

today's health News

by ALTON L. BLAKESLEE

JUNE BRIDES

The idea that marriages increase in leap years is a myth, figures of Dr. Louis I. Dublin, Metropolitan Life Insurance Co., show. Only in two leap years since the Civil War, 1896 and 1920, were there more marriages than in the year before. Prospects for a higher marriage rate in 1952 are bad, he says, because the increased weddings after the war reduced the supply of available brides and grooms.

POLIO TEST

There's great hope that a diagnostic test for polio will be developed soon, says Dr. Hart E. Van Riper, medical director of the National Foundation for Infantile Paralysis. It would tell reliably whether a person really has polio—which now can be confused with more than 20 other diseases.

FAMILY DOCTORS REPORT

Highlights from the scientific assembly of the American Academy of General Practice:

Don't try to treat yourself for "poor blood" or anemia. For "anemia is a symptom, not a disease. The trouble may be deeper than the patient realizes. Careful diagnosis is paramount." —Dr. Walter Dameshek, Boston.

"In 1935, 58.2 mothers in every 10,000 women who gave birth to living children did not survive to raise their offspring. In 1950, this figure had been reduced to less than ten, a reduction of more than 80 per cent in 15 years." There has been little change in the causes of maternal mortality; the reduction reflects better control and care.—Dr. M. Edward Davis, Chicago.

Family doctors or general practitioners provide more than 85 per cent of the medical care furnished in the United States. A main objective of the American Academy of General Practice is to promote and maintain high standards of general practice of medicine.—Dr. J. P. Sanders of Shreveport, Academy president.

Eighty per cent of the drugs of today were not known ten years ago, and "the future appears equally fruitful."—Dr. John C. Krantz, Baltimore professor of pharmacology.

Forty per cent of adults over 20 suffer from some kind of foot trouble. Women have more of it because they "are inclined to follow every change and dictate of the god, style." Ill-fitting and incorrectly designed shoes are one cause of foot ailments.—Dr. Rex L. Diveley, Kansas City, Mo.

Many parents don't enter enough into the life of teen-age children, and help them with their problems. So it becomes more important than ever for the family doctor to understand teen-agers and help them with their emotional problems. Teen-agers have four general types of problems: emancipation from the family; choosing a vocation; making some partial solution of emotional needs in relation to the opposite sex, and self-integration of social usefulness.—Dr. O. Spurgeon English, Philadelphia.

VISION AND ACCIDENTS

North Carolina is making a statewide test of its licensed auto drivers, in hopes of saving lives and money from highway accidents. So far, a general observation is that women have better color vision, men better distance vision. People who show various faults in vision may be restricted in speed or forbidden to drive at night, or both, as well as being required to wear corrective glasses.

VISION AND CRIME

Poor eyesight may sometimes be a factor in juvenile delinquency, says Dr. J. Ottis White, president of the American Optometric Association. The child unable to see to do his school work well may look for self expression and "esteem" in antisocial behavior, he feels.

SKIN DRUG

Beneficial effects on some skin disorders from use of marisoné, a natural steroid product, are described in the A.M.A. *Archives of Dermatology and Syphilology* by Drs. Werner W. Duemling and Milton Millman of San Diego. Best results were in a few patients with pemphigus, a skin disorder with red blotchy outbreaks,

contact dermatitis, and keratoderma climacterium, a skin discoloration disorder that comes with age.

HOT SUGAR

Science now has sugar that is "hot" or radioactive, with radioactive carbon atoms in it. The sugar can be traced wherever it goes, however it is used, in living cells, bacteria, viruses, animals and human beings. Hot sugar may be useful in studying diseases from cancer to tooth decay. It was developed by Dr. Horace Isbell and associates of the National Bureau of Standards.

RINGWORM AID

A resin that sometimes helps in overcoming stubborn ringworm of the scalp is described by Drs. Frederick Reiss and Dale D. Doherty of New York City in the *Journal* of the A.M.A. It is podophyllum resin, obtained from the May apple or mandrake plant. They found the resin cured 56 patients, 26 of whom got x-ray treatment at the same time, and improved 19 others, but there was no change in 21.

THYROID GLAND MEDICINE

Two Atlanta physicians, Drs. Bernard L. Hallman and Philip K. Bondy, tell of good results in treating hyper-thyroidism or overactive thyroid gland with a drug known as methimazole or tapazole. Their experience with 35 cases is recounted in the *American Journal of Medicine.*

OPERATIONS IN CHILDHOOD

Good preparation can prevent emotional after-effects in children undergoing anesthesia and surgery, Katherine Jackson writes in *Anesthesiology.* The anesthetist, dressed in street clothes, visits the child the night before, talks with him about any earlier anesthesia, how he feels, what's on his mind. He's told he will sleep and feel no pain, except for a sore throat later. The child is allowed to handle the anesthesia mask and told how breathing will put him to sleep. All coming sensations are described accurately. Advantages include less pre-medication, less anesthesia, less induction time, less excitement and a more peaceful operating room.

TICKLES THE THROAT

A strange, and rare, cause of persistent cough is a hair pressing against the eardrum, says Dr. Alex M. Burgess of Providence, R. I., in the A.M.A.* Journal. *He tells of four such cases. Each time, the cough stopped when the guilty hair was removed.

CANCER NEWS

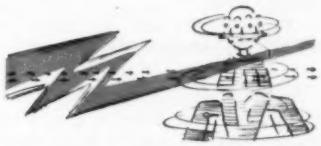
On the cancer front are these reports to the Second National Cancer Conference and the Amercian Cancer Society:

Inside the cells. With a phase or high-contrast microscope and movies —shot at the rate of one picture every minute or two for long periods —Dr. C. M. Pomerat and associates of the University of Texas are getting new insight into life within the living cell. Their movies show the birth of a cell, the explosive growth of cancer cells, cell defense against viruses and other enemies, the writhings of morphine-addicted cells, pulsations of nerve cells at work. A next step is to see what happens when the cells get cancer-causing chemicals, or hormones or things that may halt cancer growth.

How old your mother was when you were born may affect your chances against cancer, mouse studies by Dr. Leonell C. Strong of Yale indicate. The risk of cancer seems smaller if your mother was young, but if cancer comes it may be early in life and be the fast-growing kind. The older your mother was, apparently the greater your chance of developing cancer. But then the cancer may come later in life and be the slow-growing type.

Clues. Breast cancer occurs oftener among bachelor girls than married women in America. But married women who bear children have more cancer of the cervix, the neck of the uterus or womb. These and other peculiar differences in cancer rates and sites the world over offer solid clues to controlling cancers, if the reasons can be discovered, said Dr. Harold L. Stewart and Alexander Symeonides of the National Cancer Institute.

Patients with hidden cancer sit in a revolving chair. A 2,000,000 volt x-ray beam is aimed at their cancers while they spin slowly. The cancer gets the full effect of the rays, much more than any one area of skin, so a heavier dose of x-rays can be given. In 27 months, the x-ray merry-go-round has been used on 286 patients, the majority with cancers that couldn't be cut out or influenced by usual x-ray methods. Of them, 157 now have no signs of cancer, and some had had no sign of it for two years, said Dr. John G. Trump of



Massachusetts Institute of Technology and Dr. Hugh F. Hare of the Lahey Clinic in Boston.

MAKE MINE WELL DONE

Again comes a word of advice to cook those hamburgers well, for they may contain pork. Reason: To avoid trichinosis, or worm infection from pork.

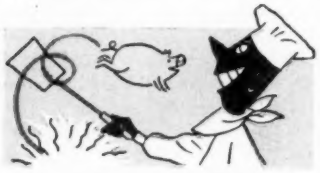
It is from Dr. Jacques M. May, director of the Medical Geography Department, American Geographical Society, who prepared a new map showing world distribution of worm parasites. His conclusions are somewhat shocking.

North America, he says, has a higher rate of trichinosis than any other continent. In New York City, it's estimated that one in four persons is infected, often without knowing it. Trichinosis may be the cause of their fatigue and sore muscles. California

is second, but the Middle West has comparatively few cases. Dr. May says the reason is that in the East and Far West hogs near the cities are fed garbage, while in the Midwest they are fattened on corn.

Cooking pork well kills the worms, as people generally know. But they often overlook meats which are just partly pork—or, like ground beef, may be contaminated if the grinder is also used for pork.

"The only possible way to stop the spread of trichinosis is to arrest it at



its source," says Dr. May. "Either stop feeding the hogs garbage, or boil it before it is fed to them."

The disease comes from pork infected with a worm larva. The larvae migrate from the stomach through the blood stream to muscles, and encyst there.

ORANGES AND BABIES

In one infant home, babies got skin rashes and other reactions to orange juice. In another home, they didn't. The reason apparently was that peel oil got into the juice prepared in the first home, and the peel oil caused the trouble, say Drs. C. L. Joslin and J. E. Bradley, pediatricians of the University of Maryland School of Medicine. More pressure was used in squeezing the half oranges in the first home, and peel oil squirted into the juice.

ARTHRITIS HUNT

Four or more generations in one family are being exhaustively case-historied to learn whether, and how, heredity affects development of arthritis and rheumatism. For this one family, with all its cousins and *their* children too, that means 1200 persons. Earlier studies of 600 members indicated that 75 have or had crippling arthritis, a ratio well above normal. Discovery of hereditary factors in arthritis would speed early diagnosis and earlier treatment. The study is being directed by Dr. Maurice Whittingill of the University of North Carolina with a Public Health Service grant.

IRON LUNG CENTERS

Louisville is getting the sixth regional respirator center set up with March of Dimes funds. The first began in 1946 in a Baltimore children's hospital, when a few iron lung patients were grouped together. Being together, in the same boat, made them feel less lonely, less fearful, and the progress of one encouraged the others to recover, even to become independent of iron lungs and go home. The centers also offer more opportunity for research and training of personnel. The other four centers are at Wellesley Hills, Mass., Houston, Ann Arbor and Buffalo.

MORE VITAMIN

Many tons of the B vitamin, niacin, can be made through a new process from abundant raw materials, Robert S. Aries of New York reported to the American Chemical Society. The vitamin is in big demand for enriching bread, for drugs and feed supplements. The present supply comes from chemicals derived from coke products. Dr. Aries said the new process gets it from reacting acetaldehyde and ammonia, both abundantly supplied from petroleum and natural gas.

FOR RARE BALDNESS

There still is no answer for ordinary baldness or thinning of hair. But baldness comes in different forms. One is known as alopecia areata, affecting both sexes, even in children, in which scalp hair may fall

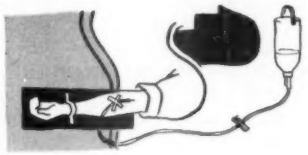
out in patches or completely, or all body hair may be lost. In this form of baldness, the hormone cortisone holds promise, Drs. Stephen Rothman and Calvin J. Dillaha of the University of Chicago report in the *Journal of Investigative Dermatology*. Sufficient doses of cortisone brought regrowth of hair in three of four patients with this form of hair loss, they said. The results are preliminary, and the study is continuing.

COMFORTABLE BOTTOMS

Diaper rash is abolished by giving diapers a final rinse in any one of several commercial germicides, Dr. Carl A. Lawrence, assistant professor of bacteriology, University of Michigan, reports after a series of tests.

PRE-TESTED BLOOD

Put an antihistamine drug into blood before a transfusion, and allergic reactions and fevers are cut to a minimum. So say Harry E. Ferris, D.D.S., and Drs. Seymour Alpert and Charles Coakley of George Washington University Hospital in the



American Practioner and Digest of Treatment. They found only one allergic reaction after giving 607 pints of blood pre-treated with the drug, compared with 52 allergic kickups or fevers after giving of 742 pints without the drug.

DIABETES CLUE?

Give animals the chemical alloxan, and they develop diabetes. Now there's some chemical evidence that human bodies might form alloxan under certain conditions, leading to diabetes. The theory was described to the American Chemical Society by Dr. R. Stuart Tipson, senior fellow in organic chemistry at the Mellon Institute of Industrial Research. New experiments, he said, suggest that alloxan may be retained in the body in toxic form. This was an earlier

idea, which had been abandoned on indications that alloxan broke down so easily in the body that it couldn't cause damage.

BACON IS BACON

The protein in bacon seems to have about the same nutritive value whether it's crisp-fried or limp-fried, tests on rats show. There might be a slight edge in favor of the medium or limp. So report B. H. McBride, B. T. Guthneck, E. Hoffert and others in the *Journal of Nutrition*.

GALLBLADDER PICTURES

For taking pictures of the gallbladder, a patient swallows a material opaque to x-rays, which concentrates in that organ. A new compound seems better than any yet used, Drs. Russell H. Morgan and Hal B. Stewart of Johns Hopkins write in *Radiology*. Its trade name is telepaque. Most patients had no nausea or other after-effects.

KEEP 'EM DRY

When dry, surgeons' gowns and drapes used in operations are sterile, Dr. William C. Beck and Thomas S. Collette, write in the *American Journal of Surgery*. But when the cloth gets wet, bacteria pass through easily, they find. They suggest frequent changes or precautions to keep the material dry, pending development of some method to make cloth either waterproof or bacteria-proof.

TRAVEL TIPS

If you're heading for Europe this summer, here are some medical tips from Harold Newman, author of Newman's European Travel Guide:

Ask your physician what vaccinations you need. Smallpox is mandatory, in order to get back into the United States. Shots to guard against typhus and typhoid may be advisable.

A dental checkup will prevent vacation-spoiling toothaches. Extra eyeglasses will let you see the sights in case of accident to the regular pair. There are drugs for seasickness, available through your doctor. And if you must take other drugs regularly, an ample supply is suggested. Don't overeat. Don't overexert. Bottled water helps if you are very sensitive to changes in water, but generally the local water supply is okay, especially in big cities. European medical facilities are generally good, but in case of doubt or serious illness, a good idea is to consult the U. S. Embassy or consulate about whom to see.

AUTOMOBILE SUPPLIES

Every automobile should have first aid equipment. If an accident happens at night, or during zero weather or when remote from home, it may be difficult to secure medical help or an ambulance quickly, and you may need first aid supplies urgently. On-the-spot improvisations are seldom ideal. Accordingly it is wise to provide the equipment beforehand. Such equipment can be prepared or purchased at little cost and may be lifesaving.

What to Include

1. Warning signals. You can prepare red flags on stands, or purchase reflectors or flares. Stick flares are effective, but burn only a limited time.
2. A flashlight.
3. A covered container for small items. This may be a grocery box or, better still, a wood or metal container.
4. Sterile dressings of small and large size, a simple burn ointment, and a bottle of antiseptic.
5. At least six triangular bandages. These can be made from unbleached muslin or old sheets. They are used in applying splints, in bandaging, or as slings.

6. Wood splints for upper and lower extremities, the former 3 inches by 17 inches, the latter 4 inches by at least 30 inches. Provide at least two of each kind.
7. At least one old blanket. This is useful for covering a victim and in improvising a stretcher.

FOLD ON DOTTED LINE AND MAKE ▲ A FIRST AID FILE IN YOUR RECIPE BOX

You're never old when there's

AT 73, W. S. had been a house painter for 55 years. When he entered an old people's home, there was a question as to whether he should be allowed to paint, for he had a severe heart condition. When he heard about it, he emphatically pronounced that he had come to the home to live, not to die—"And it would kill me if I didn't work."

On consultation with the physician and the staff psychiatrist, it was decided to let him paint a few hours a day, three days a week. He was permitted to paint as high as he could reach, but not to use a ladder.

That was two years ago. Today he is still following that work schedule, and his heart is as good as it was then. The painter himself says it best: "My work keeps me up, and alive. It's better than medicine." His case, typical of thousands, points up the brighter side of a problem in the aged which, unfortunately, has many more cases on the darker side. Here let us consider one aspect—retirement and the chance to work.

In 1850 the average length of life was 40 years. Today—only a century later—it is almost 70 years. We have taken great strides in enabling people to live longer—but we have neglected, in many cases, to offer them something to live for. We have 14,000,000 people of 60 or over, and the proportion of the population in this bracket is constantly increasing. But we have not done enough to make their (and our!) years past 60 livable.

The first step society should take—and fast—is to *abolish our arbitrary plan of retirement*, usually around 65. It is highly illogical that a person is considered able-bodied and capable when he is one day less than 65, but on the day he becomes 65, he's suddenly ready for the shelf.

In a paper entitled "Are Graybeards White Elephants?" the late Dr. John J. Wittmer proposed the establishment of company retirement panels to review each worker coming up for age retirement on an individual basis, with the purpose of allowing able workers to continue in industry after 65. Each panel would be composed of an executive in nonphysical work, and an executive in industrial relations. It would make its decision on the basis of a work report submitted by the worker's department and a health report submitted by the medical department.

It is trite but true that man is really as old as he feels. People should be allowed to work at their jobs as long as they are able to produce; when their efficiency slips, they should be allowed to move into jobs less demanding, or their standard of performance and of pay should be gently lowered.

One large hospital has an agreement with the carpenters' union to employ carpenters over 65. These carpenters are paid about three-fourths of the regular union scale. They work full time but set their own pace. General Motors, Ford and Eastman Kodak have special departments for older people. The University of California hires retired law professors from such schools as Yale, Harvard and Chicago, and as a result has some of the top legal brains of the country.

At the Dodge Division of Chrysler Corporation, a quality control report is kept on all workers in an attempt to fit the right man to the right job. Among other things which this report brought out: a special division of handicapped and older workers rates near the top in efficiency, with rejects of their production less than one per cent, compared with two per cent in most of the other departments. Furthermore, this special division has one of the lowest accident rates in the whole plant!

As many groups have found, part-time work for those who cannot keep up a full schedule is of definite value. These older, part-time workers make up in loyalty, experience and conscientiousness whatever they may lose in speed.

Our second step should be to *retire people to something rather than from something.*

When it is impossible to continue at an occupation because of physical restrictions, secondary occupations should be developed. Many of our leading companies have come to realize that more than a sound pension plan is necessary to insure contentment of their employees when they retire. Some of the nation's largest companies supplement pension benefits with educational preparation of prospective pensioners, years before they leave their place of retirement.

It is important here to dispel one of the false, outdated notions about old people—that old people can't learn anything new. This has been disproved. At one home for the aged in Chicago, a resident became an expert radio repairman: he keeps 150 sets in good working condition, although he had never even tinkered with a radio until he was 65. A man in another home, well in his seventies, learned to recane chairs. He is so proficient that there's a long waiting list for his services. In New York, one 75 year old *(Continued on page 54)*

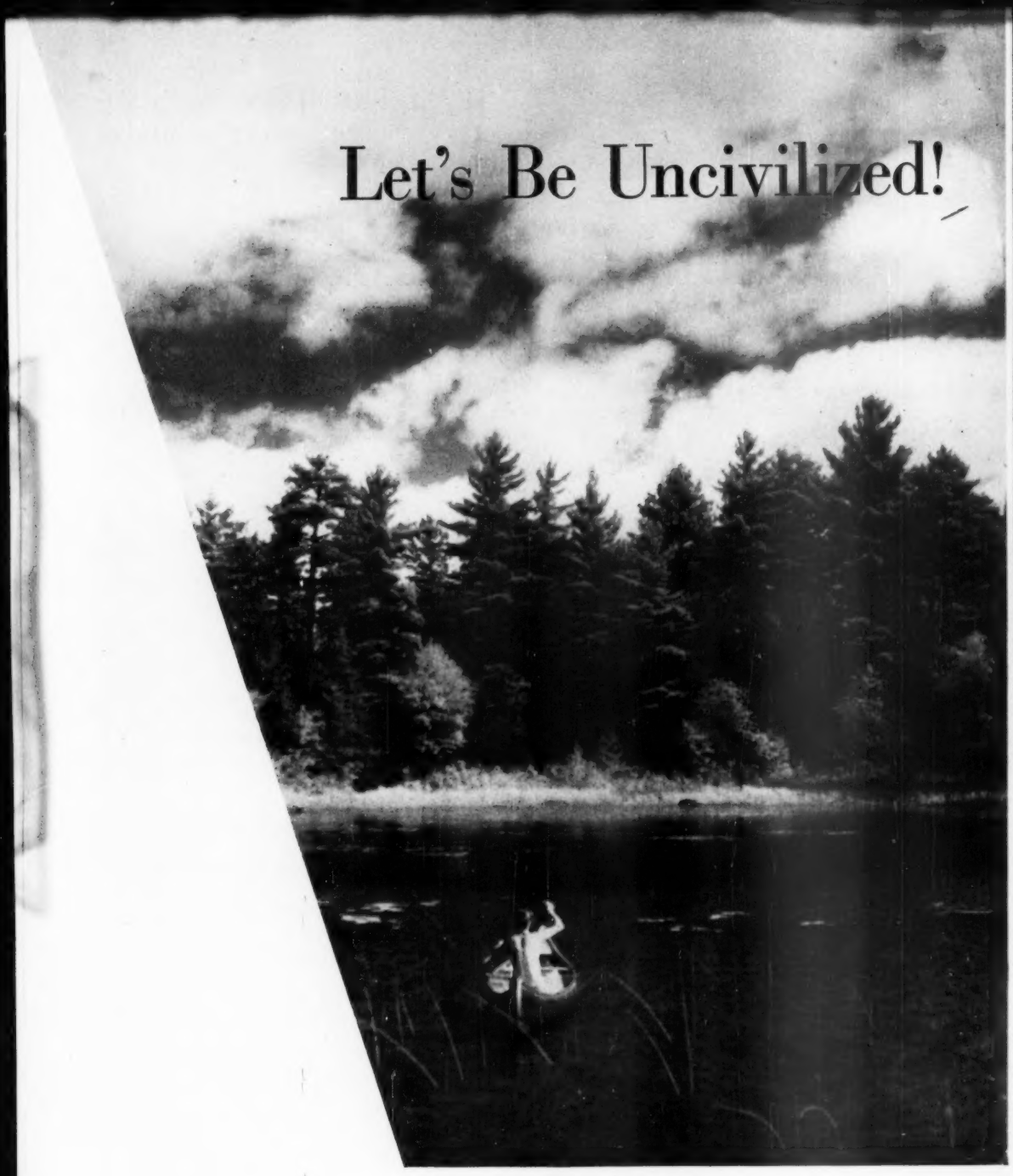
by MARC H. HOLLENDER, M.D.
and STANLEY A. FRANKEL

something to live for

Reed USDA (Monkmeyer)

Arbitrary retirement and the need of something to retire *to*—not just *from*—stand in the way of longer, happier life.

Let's Be Uncivilized!



You'll find adventure and beauty in Quetico—one of Nature's last hideouts.

DO YOU tire of the cacophony of sound, the stink of burned gasoline and the clashing billboards and hot dog stands that represent our civilization? Have you ever wished that with a sweep of your arm you could return this countryside to the way it was when Columbus landed?

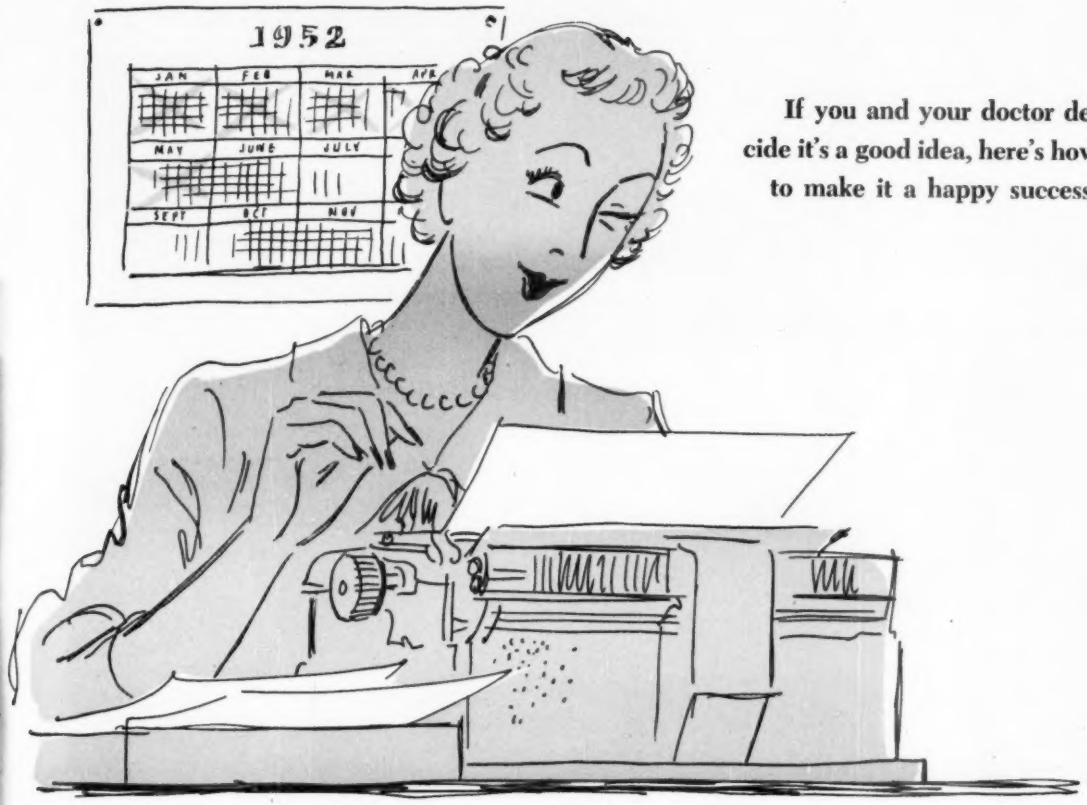
No matter where you live there still is some such place nearby—and you'll probably find it can only be reached by a shallow stream or across land surrounded by small lakes. One of the best known of these wilderness areas is Quetico Provincial Park on the Canadian side of the United States-Canada border, just north of Ely, Minn. By joint agreement between Canada and the United States it is maintained as a roadless area and now even airplanes cannot land within its borders.

by AUSTIN H. PHELPS

The entering part is easy enough. You can land at one of the ports of entry with just your camping clothes and, for $4.50 per person per day, find outfitters who will supply good food for three meals a day and all the duffel necessary to cook it and keep you warm and comfortable. This will be stowed in 80 pound, Duluth-type packs and your outfitter will deliver it, along with you and a marked map, to the nearest lake. The fee entitles you to a canvas canoe. For those who want lighter aluminum canoes, there is an extra charge of 50 cents a day.

Of course, for all the duffel of your own you furnish, your daily fee goes down, to the point where you drive up to the lake in your own car with canoe on top and take off.

A letter to the Department of Public Information at Minneapolis or Toronto will bring you a wealth of brightly illustrated folders, maps and addresses of outfitters. Further inquiry directed to the outfitters in the town nearest you, outlining just what you want, will bring maps with suggested routes outlined in pencil. If you are a football player getting in condition, a route with many rugged portages may be *(Continued on page 58)*



If you and your doctor decide it's a good idea, here's how to make it a happy success.

WORK during PREGNANCY

THE young mother-to-be today is more often than not a wage earner, and one of the problems of pregnancy is what to do about her job. How long can she keep on working? Should she try to return to the job after the baby is born and, if so, how soon?

Many factors and conditions enter into the consideration of these problems: the mother's health, the need for the additional money from the job, the type of work involved, regulations the company may have concerning pregnant employees.

An addition to the family always means extra expenses, and most women, if they are already holding down a job, would like to continue doing so for a few more months to help save for hospital and medical care, dietary supplements if they are needed, and clothing and other essentials for the new arrival.

We were no exception to the general lack of financial preparedness that faces most young couples nowadays when they find that their budget must, henceforth, be divisible by three. So, among the first questions I asked the obstetrician was, "How long can I keep on working?"

Her reply was a complete surprise. She said, "Barring complications, you can keep on with your job until you feel labor pains, if you want to. In fact, the longer you continue working, the less trouble we'll have with you!"

I had always supposed that a doctor would advise leaving the job as soon as possible. But I was instructed to go on living much the same as I had before the all-important discovery that I was to be a mother.

Instead of learning that my job was a threat to the health of my baby and myself, I was told that nothing

by IRENE E. CLEPPER

could be better for us. Mine is a desk job and, of course, that makes some difference. Doctors and industrialists are agreed that the pregnant woman should not continue with a job that involves lifting or other strenuous muscular activity or being constantly on her feet. The hours of the job also make a difference. Few companies will permit a pregnant woman to work the "swing" or "graveyard" shifts. If your job includes any of these drawbacks, and you are unable to obtain a temporary transfer, it's advisable to give up the idea of working—the hazards are too great.

The regular schedule of working hours acts as a safeguard, my doctor told me. Meals are eaten at the same time each day and a definite schedule for exercise can be worked out, oftentimes more easily.

"You won't have so much time to think about yourself and worry over trifles," the doctor added. "We've found that the girl who can continue with her job keeps happier and healthier and has less trouble during her pregnancy and labor."

This doesn't apply, of course, to the woman who, finding herself pregnant and worried about the extra expense, rushes out and gets a job. The unaccustomed strain of her new work, plus the fact that she may not be feeling her best and is ill at ease about her growing waistline, may make her nervous and upset.

Having the question of health answered satisfactorily, my next move was to discuss the matter with my boss. Many women, through a misguided sense of modesty or the fear that discovery will mean immediate loss of the job, try to conceal their condition as long as possible. Such deception—short-lived as it must be—may be harmful to health and most certainly will antagonize the employer. Many large companies now have stated arrangements that provide for a maternity leave of absence, usually one to two months before the baby is due and six weeks to two months afterward. But I work in a small office, with no set policy. My employer first questioned me about my health. Assured that I had the doctor's blessing on continuing with my work, he agreed to permit me to continue on my job as long as I wished. "And the job is open if you want to come back," he offered.

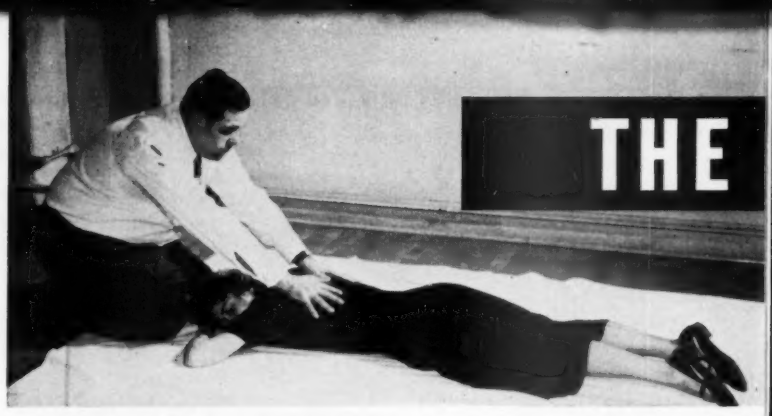
Working after the baby comes is an entirely different problem and it, too, must be solved after considering all the factors involved. If the security advantages—two paychecks to buy a house or provide other benefits—outweigh the natural rewards of caring for the child yourself; and if there's someone absolutely dependable, a grandmother, an aunt or someone else who takes a personal interest in the child, that can care for the baby during your absence, then your decision may be to continue working or to return to work when the child has established a healthy schedule.

Although pregnancy is a perfectly normal function and should not be looked on as an "illness" or a "difficult time," it does involve certain glandular and other changes. And the woman who plans to continue with her job should be aware of these changes and condition herself accordingly.

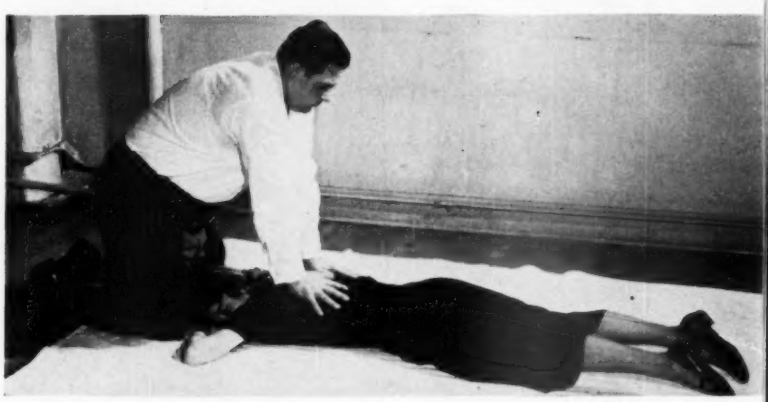
During the first two or three months of pregnancy, your body pointedly signals you that it needs more sleep. You'll find yourself nodding over your dessert more than one evening. Don't fight the feeling; your body's giving you sound advice. Take a week-end "rain check" on week-night invitations and count on getting at least eight and preferably ten hours' sleep every night. If your office or plant has an arrangement for a ten or 15 minute break in the morning and the afternoon, use it to get a bit more rest—sometimes this is obtained by merely shifting your position, walking around a little, getting a breath of fresh air or catching 40 winks in the ladies' lounge.

Exercise is important. You should be out-of-doors at least an hour every day—dressed for the weather, of course, for the pregnant woman *(Continued on page 62)*

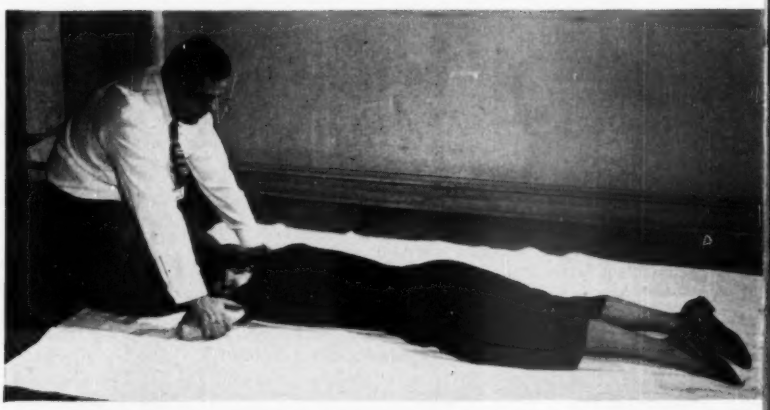
1. First step in back pressure-arm lift method. Victim is placed on stomach, cheek resting on crossed hands. Operator kneels on one knee or both as shown, places hands on back with thumbs touching, fingers spread down and outward.



2. The operator rocks slowly forward, keeping elbows straight, until his arms are approximately vertical. This forces air out of the victim's lungs with a gentle but steady and even pressure on the back.



3. Next, he releases pressure by rocking back slowly, and rests hands just above victim's elbows. This phase should be short; operator should not give final downward thrust on back before releasing pressure.



4. In last phase, operator continues backward rock, draws victim's arms upward until he feels resistance at the shoulders. This forces inhalation of air by expanding the chest. Arms are then dropped to complete a cycle which should be repeated 12 times a minute at uniform rate.

Post-Dispatch PICTURES (Black Star)

NEW LIFESAVING METHOD

Here's why the Red Cross, the A.M.A. and a good many other organizations decided to adopt a new method.

by HOWARD A. CARTER

"WHAT'S that crowd doing over there?" said the middle-aged former lifeguard.

"Looks like they've pulled a man out of the water," said his friend, a retired fireman. "Let's go see what they're doing."

The two hurried to the water's edge where a limp form with a bluish cast to his skin lay on the sand. Two lifeguards were working over the victim, administering artificial respiration. The guards seemed to know what they were doing, and it was obvious that they had been carefully instructed. They were applying the back pressure-arm lift method of artificial respiration.

"That's not the way we used to do it," said the retired fireman.

"No, it's not," said the former lifeguard. "We used to use the prone pressure method." And he went on to tell of a newspaper article and a telecast he had seen about a different method that has recently been endorsed by the American National Red Cross and the Council on Physical Medicine and Rehabilitation of the American Medical Association.

"Let's watch how these young fellows do it," he concluded.

The victim was on his stomach with both elbows bent and the hands placed one on top of the other. His face was turned to one side, and rested on the hands. The lifeguard knelt at the victim's head so that one knee was against the victim's shoulder. The lifeguard placed his hands over the shoulder blades and pressed, then took hold of the arms and lifted them upward and toward him. As the lifeguard did this, the arms were extended outward on either side, but the hands of the victim were not disturbed and remained as a head rest. The victim's arms were lifted until resistance of the shoulder blades was met; then they were carefully replaced on the ground. Then the guard's hands were slid back so that they could be pressed on the victim's mid-back just below the shoulder blades. Now the lifeguard rocked forward allowing his weight to bear on the upper back of the victim's body, exerting pressure. Then he rocked backward and lifted the arms once more. He repeated the cycle at the rate of about 12 to 15 times per minute. *(Continued on page 60)*

In correct position, the victim's mouth is lower than his throat to let fluid drain from the respiratory tract.

A slight person can easily apply method on heavier victim of asphyxiation from drowning, shock or gas.

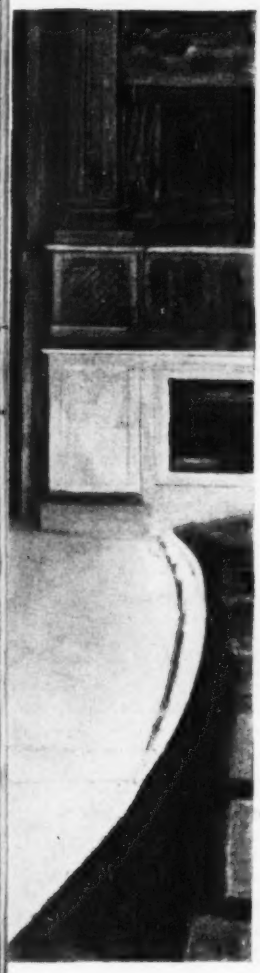
BEAUTY and health

by VERONICA LUCEY CONLEY

ONLY occasionally do we see revolutionary changes within an industry, whether we are talking about cosmetics or automobiles. Cake makeup, which was first developed to replace grease paint for theatrical use, has proved a significant advance in the art and science of beautification. Equally important is the fact that this development ushered in a number of new foundation type cosmetics.

Cake makeup fills the bill as a true cosmetic. Why? Because it meets a definite beauty need—it adds color, a smooth and velvety look, and helps conceal minor skin discoloration. It does not alter skin structure. And it is generally quite harmless. Cake makeup can be all of these things when properly applied.

Like all significant advances, cake makeup evolved from a number of less successful predecessors. Perhaps its most immediate ancestor was face powder in cake form. Although we have no record of where this idea originated, women of the Dutch East Indies are reported as utilizing a similar principle. They first soak shelled rice for a day or two. Then they sun it to swell the grains, after which it is milled with water in stone mills. It is formed into a cake by hand. When it is dry, the women use a piece of wet cloth to rub the surface and apply the rice



The grease paint used in the theater when Edgar Degas painted "Ballet" was a far cry from the cake makeup used by television actors today. Degas' original oil painting is at the Louvre in Paris; this reproduction is from a print at the Art Institute of Chicago.

MAKEUP BASES

Cake makeup was the beginning of something new for cosmetic users.

powder to their faces. This primitive beauty aid produces a smooth finish.

The first patents for cake makeup were issued in 1936 and 1937. The name of the cosmetic was registered as "pancake" makeup. It is a highly pigmented face powder incorporated into a dehydrated cream. When water is added on a moistened sponge, a cream is formed in which the powder is incorporated. After application to the face, the water evaporates leaving a film of powder and dried cream. Color and coverage is supplied by the powder, while the cream provides a protective film. The preparation is intended to withstand a fair degree of moisture, but it can be removed by soap and water or cold cream.

Cake makeup is used by thousands. Aside from an occasional sensitivity to an ingredient or combination of ingredients, it is harmless. Not infrequent, however, is the complaint that consistent use causes excessive dryness of some skin. The exact mechanism that leads to the dryness is unknown, but it is troublesome and unattractive when it occurs. Where this is a problem, the use of cake makeup may have to be regulated to intervals of two or three days. If this period does not suffice, the interval may have to be lengthened or another type of makeup base substituted. Thorough cleansing of the skin at the end of the day and the nightly application of an emollient cream will help minimize or alleviate dryness.

Some may feel that cake makeup is not quite appropriate for everyday use or for all ages. Though there is much controversy on these aspects, there is no question of its usefulness in the theater, particularly now in television. Actors and actresses, prior to their appearance before the television cameras must be properly made up. Pancake makeup is an effective cosmetic to give clarity and depth to facial features. The image on the television screen appears in shades of gray, all colors being converted to five shades on the gray scale (nearly white, light gray, medium gray, dark gray and nearly black). Cake makeup is also useful to minimize structural imperfections, to conceal skin blemishes and to provide a matt surface so that the skin does not appear shiny. Men as a rule require a light coating of cake makeup to help conceal their beards. Even though they have shaved within a few hours of appearance time, their faces often have an unshaven look. Cake makeup is an essential cosmetic for television performers.

For anyone who can't use cake makeup, a cream makeup base offers many advantages. This product is applied with the finger tips and does not require water. On the whole, it is not as obvious as cake makeup, and it gives a desirable appearance. Although its wearing quality may not quite equal cake foundation, its other advantages have given rise to tremendous popularity.

Heavily pigmented variations of this cream makeup base are widely used for concealing birthmarks and other major skin discoloration. For satisfactory use they must match the skin surrounding the discolored area as closely as possible. This may necessitate mixing two shades to get a more desirable intermediate shade. Another important principle of application is to blend *(Continued on page 60)*

Food Poisoning

FEW people go through life without sometime becoming ill from something they have eaten. Such disorders may have a variety of causes ranging from indiscretion to botulism, a very serious and, fortunately, rare condition. The two most common forms follow the eating of food that contains either salmonella bacteria or a poison produced by staphylococcus germs.

The group of bacteria known as staphylococci are hardy and ubiquitous. On the skin they may cause pimples and boils; in the nose and throat they may cause inflammation of the mucous membranes. They thrive at room temperatures in suitable foods, especially meats and custard or cream pastry. Some kinds of staphylococci have the ability to form a toxin or poison while growing in the food. This substance, which is extremely irritating to the gastrointestinal tract, is known as enterotoxin, from enteron, a Greek word for intestine. While cooking kills the staphylococci, it does not destroy the toxin.

If staphylococci of a type capable of producing enterotoxin gain access to some suitable food such as ham sandwiches, let us say, or chocolate éclairs, and such food is allowed to stand at room temperature for five hours or more, people consuming this food are likely to become suddenly ill from two to four hours later with nausea, vomiting, diarrhea, cramps and prostration. Although the patient may experience considerable discomfort, the illness is seldom serious and the acute stage lasts only about three to six hours.

Possibly because single cases and family outbreaks are less likely to come to public attention, this type of food poisoning is more commonly associated with large dinners and social functions. In investigating such an outbreak, physicians naturally seek to determine which of the foods served were eaten by those who became ill but not by those who remained well. This may give

us a clue to the cause of the trouble, although, especially in large groups, there are likely to be discrepancies. Some people who ate the toxic food may not become ill. Perhaps they have heightened individual resistance to the toxin, or they may have gotten a portion of the food that contained little or none of it. On the other hand, an occasional person who did not eat the suspected food may show symptoms of gastroenteritis from some other cause. It has been found that, from one cause or another, up to five per cent of a community may have such symptoms at any particular time. It is also possible for practically all of those present to have eaten some of everything that was served, in which case most if not all of them will have become ill. With such a situation about all we can do is to pick out from the menu those foods that are most apt to be involved in staphylococcus food poisoning, study their preparation and try to get samples for laboratory examination.

Almost everybody has it sometime, but he needn't—if the homemaker, the caterer, cook and chef will follow the few simple rules given here.

If most of those who became ill ate a certain food and the reverse is true for those who remained well, we submit samples of this food, if available, for laboratory examination and endeavor to learn where and how it could have been contaminated with staphylococci. We try to find out through what lapse in kitchen procedure the staphylococci were permitted to grow and form enterotoxin. Unfortunately the laboratory examination is frequently not conclusive. There is no ready way to recognize the presence of the toxin itself, either in the food or in the discharges of the patients. The presence of staphylococci can be detected, but the identification of the variety capable of producing enterotoxin cannot be made with assurance. Moreover, there is a possibility that staphylococci found in the food sample may represent contamination that occurred after the food was eaten, especially if the sample was not promptly obtained and properly kept until examined. Thus the most we ordinarily have to go on is the presence of a heavy growth of staphylococci in the suspected food plus the discovery of some fault in its preparation that would permit the introduction and growth of the germs.

There are two ways to guard against this type of food poisoning and the wise housewife or cook takes both precautions. First, we try to prevent the food from getting contaminated with staphylococci; second, we look after it in such a way that, should these germs be accidentally introduced, they will not have an opportunity to grow and form enterotoxin. The first of these measures calls, of course, for scrupulous cleanliness in the kitchen and, of even greater importance, not undertaking the preparation of food if there are any infections on the exposed surfaces of the skin, or any symptoms of inflammation of the mucous membranes of nose or throat. The food handler must of course always wash his or her hands before beginning to prepare the meal.

The other precautionary measure requires that food, other than dry or packaged groceries, be kept refrigerated from the time it is purchased until it is prepared for cooking or serving. It should not be allowed to stand for any length of time at room temperature after it is removed from the refrigerator or cooked. Leftovers should be promptly refrigerated at the conclusion of a meal.

Staphylococcus food poisoning comes from enterotoxin that is already present in the food at the time it is eaten. This explains the rapid development of symptoms. Salmonella food poisoning, on the other hand, is a true infection; that is, the affected food contains the salmonella bacteria but not a toxin. Since the germs themselves are the cause of the illness, symptoms do not develop until the germs have had an opportunity to multiply sufficiently in the patient's gastrointestinal tract; hence there

by Edward A. Lane M.D.

is a longer interval in this type of food poisoning before the onset of illness, from 12 to 24 hours in the majority of cases. This is an important distinguishing feature between these two types of food poisoning.

The salmonella microorganisms are also a large group. The "food poisoning" or preferably "food infection" members of this group are found in cattle, fowl, rodents and such household pets as cats and dogs as well as in human patients and carriers. It is obvious, therefore, that opportunities for the contamination of food with these microorganisms are numerous. That illness does not result more frequently is no doubt due to the fact that the cause is not a preformed, heat-resistant toxin but bacteria which are killed by thor- *(Continued on page 50)*

Dr. Lane is head of the communicable disease section of the Westchester County, N. Y., health department.

Sentinels of AMERICA'S HEALTH

Checking 30 million travelers a year, the quarantine service stands guard against communicable disease.

by ARTHUR D. MORSE

THE quarantine division of the U. S. Public Health Service is America's first line of defense against the entry of diseases from foreign countries. In 1951 more than 2,000,000 people entered the United States on 20,000 ships and 28,000 planes. They did not introduce a single case of quarantinable disease. Nor did the 29,500,000 border-crossers from Canada and Mexico.

For this record a healthy America can thank her sentinels at 243 quarantine stations in the United States, its possessions and 25 foreign countries. These stations are manned by some 275 medical officers, who are assisted by more than 100 inspectors in checking every incoming traveler for immunization against disease.

Their inspections determine whether passengers returning from epidemic areas are free from contagious infection. They see to it that anyone ill on arrival gets proper care. As medical advisers to the Immigration Service, they examine all aliens who apply for U. S. citizenship.

Rounding out this quarantine team is a highly trained staff of inspectors who search all ships and planes for disease-carrying animals and insects.

From Public Health Service headquarters in Washington, Dr. Gilbert L. Dunnahoo, chief of the division of foreign quarantine, explains, "All we do is follow the ancient practice of segregating the sick."

This ancient practice has come a long way since the days when plague killed one of every four Europeans. In 1485, when Italy was in the grip of the Black Death, it gave the world the root of "quarantine," *quaranta*, meaning 40. Venetian health authorities decreed that all vessels arriving from disease-infected ports lie isolated in the harbor for 40 days. The Venetians reasoned that infected sailors would die within this period, after which commerce could begin without endangering the city.

Centuries later disease still terrorized the ports of the world, including those of the United States. A virulent yellow fever epidemic in Philadelphia led William Penn to draw up the first colonial quarantine law in 1700. But for years there was no federal quarantine legislation and the separate state laws were conflicting and inadequate. There were 500 deaths a day during the cholera epidemic of 1832 (New York City was one of the worst sufferers), and later this pestilence ravaged the Mississippi Valley. Finally, in 1878, after yellow fever had claimed 100,000 victims in the South and West, federal quarantine laws were enacted.

Today, as soon as a ship arrives at a U. S. port, it hoists the yellow quarantine flag. Passengers and crew are not permitted ashore until inspection has been completed and the quarantine flag is lowered. While a crew of inspectors check the passengers topside, other inspectors probe below for rats, the source of bubonic plague. Although the United States has had no outbreak of this disease since the San Francisco epidemics of 1900 and 1907, it is still widespread in India, Burma, Indo-China, Indonesia, Java, South Africa, the Belgian Congo, Madagascar and Yemen.

The 435 rats removed from a Mediterranean cattleboat represent the largest single haul in quarantine his-

Acme

tory, but the 15 taken in 1943 from the French troopship Wyoming were the most dangerous. As with all rats, they were autopsied at the quarantine laboratory. The tests revealed that they carried plague. Fortunately the Wyoming had sailed from Casablanca without troops and none of the crew had yet caught the disease. Destruction of the rats and intensive fumigation of the ship ended that particular plague threat. Inspectors have uncanny powers of estimating rat populations from such clues as droppings, smudge marks, gnawings and paw prints. For much of their exterminating they use "1080," a poison so potent that a minute amount will kill a human being. It is placed in poison cups surrounded by warning placards and is used only when passengers are ashore and crew members are informed.

Inspectors also fumigate ships with deadly cyanide gas, which presents a different problem—how to prevent the accidental asphyxiation of stowaways. The solution? A half-hour before fumigation the inspectors spread an irritant similar to tear gas through the spaces which are to receive cyanide. Recently this saved the lives of ten stowaways hidden in a space below the ship's engine room. When the irritant seeped down to them they hammered frantically for help and were rescued by inspectors before the lethal cyanide penetrated their hiding place.

Rats are pursued relentlessly because they are responsible for a mild form of typhus as well as plague, and are the cause of other shipboard disasters. In the Vestris sinking some years ago, lives were lost when lifeboat lines parted. Rats had gnawed them to the breaking point.

Although rodents are the favorite target, other animals are on the check list. Dogs coming from areas where rabies is prevalent must be vaccinated. Strict rules govern the bringing in of birds, including lovebirds, canaries, pigeons and parakeets, that can transmit psittacosis or parrot fever. Before monkeys embark for the United States they are held in mosquito proof structures until proved free of yellow fever.

The most complex quarantine service problems are presented by people. There was the incident of the German ship Hansa, which arrived in New York shortly before World War II. Dr. Henry M. Friedman, quarantine's ace trouble-shooter for the last 40 years, was met by the Hansa's doctor.

"Any sickness on the voyage?" asked Dr. Friedman.

"Oh, no," replied the Hansa's doctor. "Everything was fine."

"Suppose we take a look at the infirmary," Dr. Friedman said.

"That will not be necessary," snapped the ship's doctor.

"I'm afraid I must insist," said Dr. Friedman.

Grumbling, the Hansa's doctor led Dr. Friedman to the infirmary. After another vain protest he opened the door, revealing three tiers of bunks filled with sick sailors. All had typhoid fever.

"Where are the rest?" the quarantine officer asked.

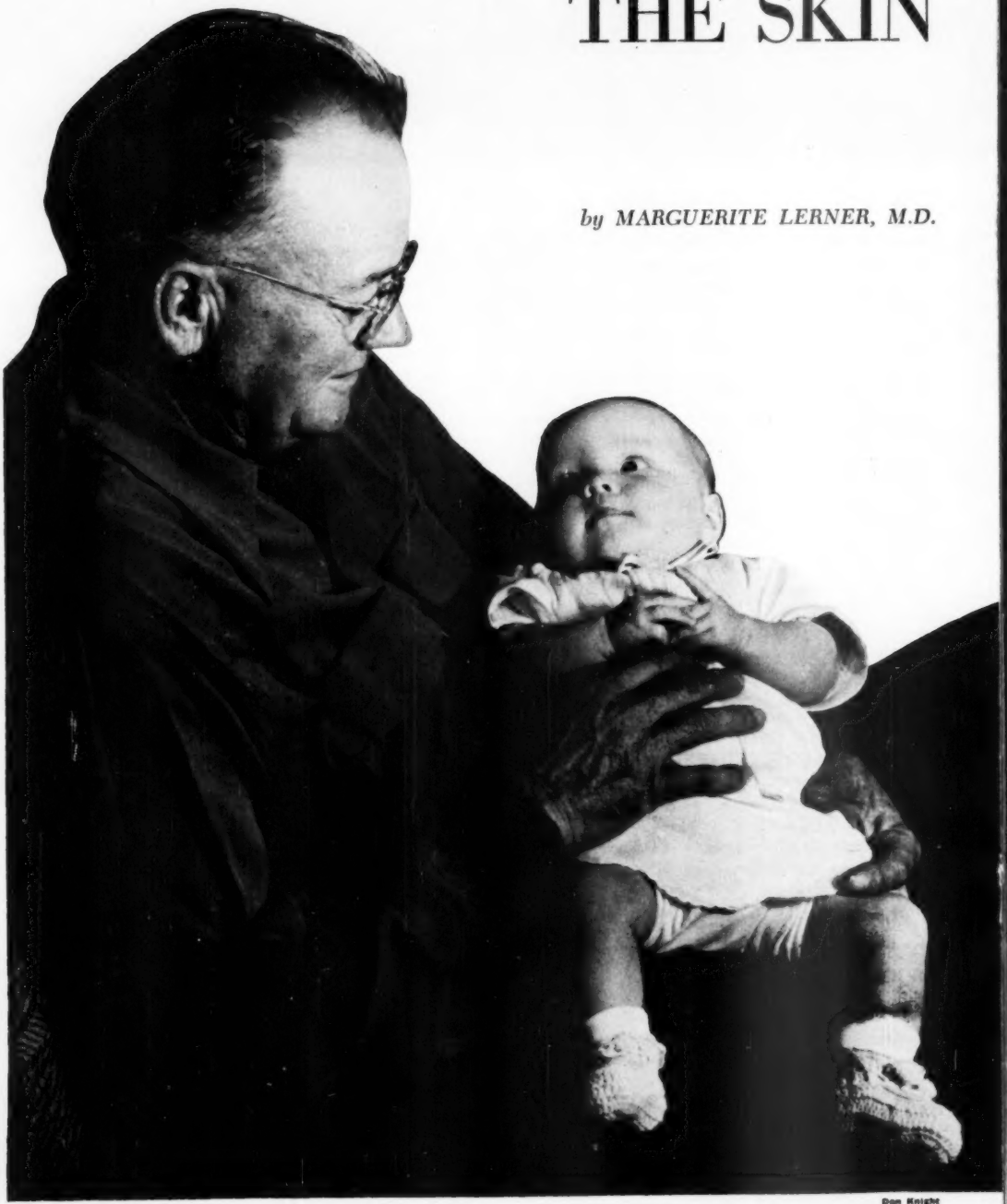
"That's all there are," the ship's doctor said.

But Dr. Friedman discovered an *(Continued on page 64)*

The Port of New York quarantine station on Ellis Island is one of 243 in the United States. They did not let a single case of quarantinable disease into the country in 1951.

THE SKIN

by MARGUERITE LERNER, M.D.



Don Knight

And its changes in infancy, childhood, adolescence, pregnancy, middle and old age

GROWING old is not merely a local condition affecting one's mental outlook or physical ability, but is rather a process associated with fundamental changes in our entire being.

The skin, like any other organ, changes with age. Skin changes make themselves seen in a way that few others do. The teen-ager is particularly disturbed by the changes that occur with adolescence. The prospective mother is concerned about the cosmetic significance of skin changes occurring in pregnancy. The farmer, the sailor and other outdoor workers wonder about lesions which appear after years of exposure to the elements. And finally, elderly people worry whether new marks and bumps, which seem to accumulate with the years, are related to cancer. So, let us examine skin changes from infancy to old age with a view to understanding what causes them, their significance, and what we can do about them.

Infancy and Childhood

We all know that the skin of the newborn infant is so delicate that for the first few days following birth it should be bathed with olive or mineral oil. Afterward, the baby can be washed with mild soap and water.

The skin diseases most common in infants are congenital—the child is born with them. These congenital disorders are called nevi, or birthmarks. One type of birthmark is a growth composed of blood vessels, such as the port-wine stain, strawberry or raspberry marks and spider nevi. Some of these birthmarks disappear spontaneously. Others respond to x-rays or treatment with an electric needle; still others cannot be treated.

Another type of birthmark is the mole. Moles may be pigmented or the color of normal skin. They may be hard or soft, small or large, flat or raised. Some contain hair. It is believed that by the time a person reaches adulthood, he has 20 pigmented moles on his body. Most moles are not significant. Some, however, may be large and hence disfiguring. Many can be removed; others are best left alone. Rarely, a pigmented mole may give rise to cancer, but we do not know whether such a lesion contained cancer cells to begin with or whether the cells were transformed. The conversion of a mole to a melanoma or cancer before puberty is rare.

Skin lesions common during childhood are those associated with infectious diseases such as chicken pox, measles and scarlet fever. These lesions disappear and leave no telltale marks, with the exception of chicken pox which may leave scars or pockmarks if any of the lesions have become infected.

Adolescence

The adolescent boy or girl is beset with many problems, not the least of which may be changes in the skin. At this age, acne announces its arrival with blackheads and pimples over the face, chest, back and arms. Acne is an inflammatory disease of the ducts of the sebaceous or oil glands and is usually seen in persons with naturally oily skin. It is thought to be related to the hormonal changes that occur with puberty. Its treatment depends on its severity. The skin must be kept clean with soap and water, and sometimes cleansing alcohol is used for extreme oiliness. It may be necessary to eliminate particular foods from the diet if these foods can be shown to aggravate the acne in a particular case. For example, some people know that eating peanut butter or chocolate will bring an outbreak of pimples. In others, these fatty foods are not disturbing. Penicillin and other antibiotics are used when infection is present. Ultraviolet light is often useful. X-ray and hormone therapy are reserved for severe cases.

Fever blisters or cold sores, known technically as herpes simplex, appear chiefly about the nose, lips and genitalia. They are associated with puberty and may be worse during the menstrual periods. These blisters can often be controlled with drugs and vaccines.

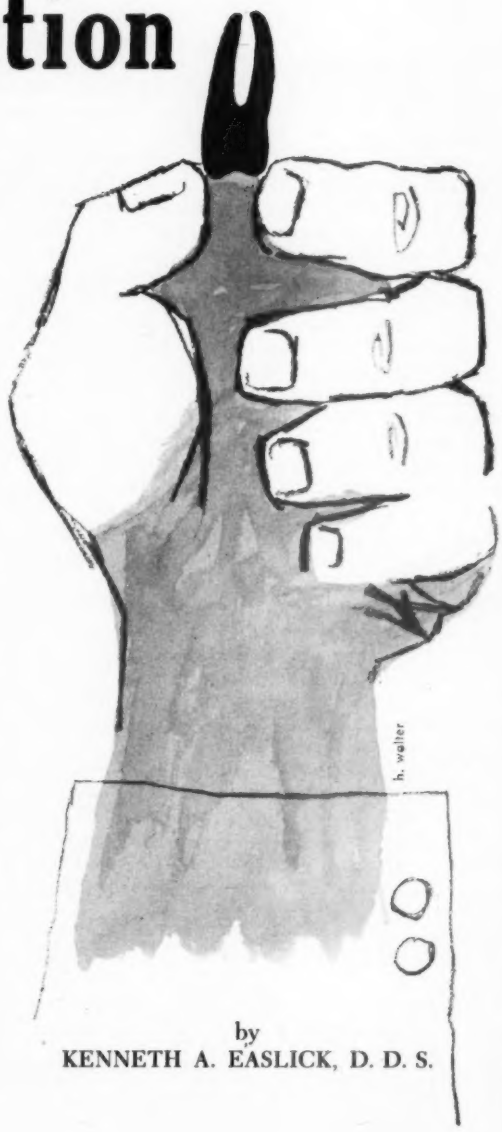
Pregnancy

During pregnancy, certain changes in the skin occur so frequently that they are considered normal.

One of the commonest skin changes in pregnancy is increased pigmentation, especially in brunettes. This hyperpigmentation, which is due to increased deposition of the pigment melanin, is found in areas that are usually highly colored, such as the nipples and the genitalia. Localized patches of light brown pigmentation may occur on the face and neck, a condition referred to as the "mask" of pregnancy. These pigmentary changes increase with the progress of pregnancy and tend to disappear shortly after labor. In some cases, however, the pre-pregnant shade may not fully return.

The activity of the sweat and sebaceous, or oil, glands may be stimulated so the pregnant woman notices increased perspiration and *(Continued on page 64)*

focal infection



by
KENNETH A. EASLICK, D. D. S.

ON October 3, 1910, William Hunter, an English physician, presented a startling lecture in Montreal. Its audience was limited to the formal opening session of the Faculty of Medicine at McGill University, but its reverberations did not stop there. Hunter indicted American dentistry, then considered the finest in the world. He scored it for all the disease that, he said, dental practice of the early 1900s had permitted to develop on this continent, for the stiffened joints, the damaged hearts, the infected kidneys, the irritated skins, the failing eyes.

"Gold fillings, gold caps, gold bridges, fixed dentures, built in, on and around diseased teeth," he said, "form veritable mausoleums of gold over masses of sepsis to which there is no parallel in the whole realm of medicine or surgery."

Outstanding research scientists in the United States, working with the somewhat crude bacteriologic technique of that period, and dentists, treating teeth without assistance from either the bacteriologic laboratory or the dental x-ray machine just being developed, promptly fell in line with Hunter's conclusion. They agreed that "oral sepsis" from the staphylococci and streptococci which commonly inhabit the mouth, could get into the blood stream through or around a broken-down tooth and could set up a diseased state in another part of the body. They called this process "focal infection."

Through articles published in the professional journals and the newspapers, a tremendous amount of publicity was concentrated on the "dead" tooth as a source of body disease. Dental schools of the United States and Canada, largely because of the criticism of dental practice which this publicity engendered, were forced to teach practically all the basic sciences studied by medical students. The addition of physiology, bacteriology, microscopic anatomy, pathology and chemistry of the human body, to provide the dentist with precise information about the body tissues which might be involved by infected teeth, lengthened the study of dentistry two full years. Dental and medical students were taught to advise the elimination of questionable teeth or

Dr. Easlick is professor of dentistry at the University of Michigan.

After 40 years of extracting teeth, people still suffer from rheumatism

tonsils or appendixes or gallbladders to prevent or cure a number of diseases of uncertain origin. It was in this manner that the concept of focal infection as an agent in systemic disease became speedily and firmly established.

Probably one of the conditions which helped to popularize a belief in focal infection was the ready accessibility of people's teeth and tonsils, the two organs most frequently removed to eliminate it. Tonsil tissue is scarcely missed by the patient and teeth can be replaced by artificial substitutes. Many physicians and dentists soon accumulated a number of personal, office and hospital experiences of definite relief following the removal of tonsils or the extraction of teeth. These experiences could be recited as evidence because some of the recoveries were immediate and spectacular.

It is true, of course, that one can rarely be quite certain that a recovery which follows surgery was achieved by the operation. Many things may be ordered in the hospital before and after surgery in order to improve the patient's health—bed rest, quiet, massage, heat, vaccines, improved hygiene, nourishing food, vitamin supplements, drugs. None of these treatments are very startling departures in themselves but frequently they are remarkably effective. A number of factors such as faith, chance, coincidence, generalized reaction or a spontaneous cure may be responsible for the recovery. Nevertheless, when the surgeon performed a tonsiliectomy or a dentist extracted a molar and the patient recovered, it always appeared logical to conclude, "After it, therefore because of it."

Rheumatic patients eventually began to diagnose their own conditions. Not infrequently a patient with a backache importuned his dentist to make a dental x-ray examination before he reported to the physician for the determination of the type of back condition and its probable cause. "Have you had your teeth x-rayed?" became a routine question in physical examinations.

On the other hand, a number of scientific voices have been raised in the last 15 years to question that viewpoint. It appears appropriate at the present moment, then, to examine the extent of the benefits achieved by treatment on the theory that focal infection from the teeth has caused generalized body disease. Certainly it would seem that scientific information and the resultant treatments should have broadened the family physician's approach since 1910. What has the scientific practicing physician learned about the results of his elimination of focal infection as a treatment of disease during the last 40 years? What does the scientific dentist now think about the menace of the devital tooth? What does the scientific research worker now conclude is the nature of the diseases for the cure of which teeth were extracted so widely?

In 1939, two professors of medicine from Jefferson Medical College, Philadelphia, summarized the reasons for a growing skepticism about the benefits obtained in the treatment of disease by the elimination of foci of infection. They stated, in a lecture presented before one of the General Scientific Sessions of the American Medical Association at St. Louis, that:

1. The theory of focal infection as an agent in systemic disease never has been proved;

2. The infectious agents in a number of systemic diseases still are unknown;

3. Large groups of persons whose tonsils are present are no worse off than those persons whose tonsils are out;

4. Patients whose teeth or tonsils are eliminated often continue to suffer from the original disease for which the organs were removed;

5. Beneficial effects in suspected "focal infection" can rarely be ascribed to surgery alone;

6. Benefits occasionally reported following surgical measures in these cases are often outweighed by harmful effects or no effect at all;

7. Many suspected foci of infection heal after recovery from the systemic disease, or when a person's general health is improved by hygienic and dietary measures.

With the passage of time and the improved techniques afforded by dental research, today's dentist has learned to utilize three relatively recent developments in his treatment of and his conclusions about the devital tooth. He now uses modern bacteriologic science to determine when the root canal of a tooth no longer harbors living bacteria and, hence, is safe to seal. He has developed and tested precision methods of sealing off these treated, bacteria-free canals with impermeable pastes and gutta-percha cones or tapered silver points. With the perfected x-ray methods achieved since the assembly of the first Coolidge tube in 1913, he has achieved an unusually responsible technique for checking the accuracy of root canal fillings and *(Continued on page 52)*

STORIES IN BONE

MY neighbors are the parents of a bright two and a half year old daughter, Lucy. Lucy's mother was worried because she thought the child should eat more, but the father reminded her that after Lucy's periodic trip to the doctor four months earlier, the pediatrician had said she was well nourished and in good health.

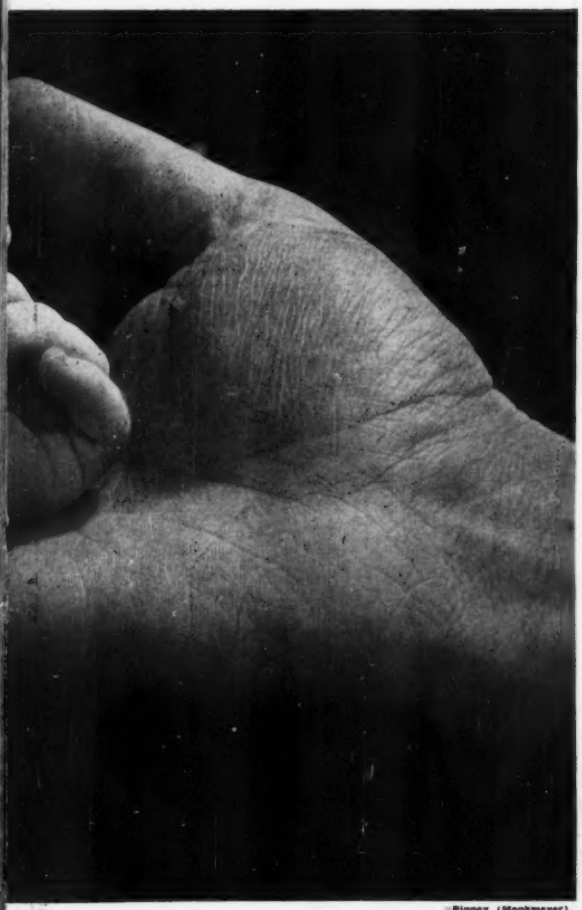
To be sure, the mother took Lucy to the doctor again without waiting for the regular time. He made his usual careful examination and measured Lucy's growth. And this time he x-rayed her hand and wrist to see whether her skeleton showed evidence of poor nutrition not otherwise revealed. Lucy's good health was confirmed both by the examination and by the x-ray pictures, which showed that her bones were well formed, and that, far from being retarded (which may occur in chronic malnutrition), Lucy had reached the skeletal development usually found in three year old girls.

By checking Lucy's hand and wrist bones now and in years to come, her physician can find answers to many questions about her growth and development. How mature is she physically for her age? If she has a serious illness while she is still growing, does it disturb her growth? When is the preadolescent spurt of growth in height likely to cease? Is her first menstruation to be expected early or late? By comparing her x-ray pictures with a standard, and thus finding out her skeletal age—or stage of bone development—Lucy's pediatrician may learn much, not only about her past and present rate of growth, but about reasonable expectations for the future.

He may draw his conclusions with considerable assurance because standards of skeletal development of the hand and wrist have now been developed for boys and girls from birth to maturity. The standards consist of x-ray pictures which show the stages of bone development in children at intervals of three months in the first year, six months from one to five years, and yearly up to 18 years. These standards are based on the thousands of x-ray films of growing children in the Brush Foundation

by MARION O. LERRIGO

X-ray films of a child's hand and wrist tell a great deal about his growth.



—Pinney (Monkmeyer)

collection which was started in 1927 by the late Dr. T. Wingate Todd and now belongs to Western Reserve University. Dr. William Walter Greulich of the Stanford University School of Medicine and Dr. S. Idell Pyle of Western Reserve University and the Harvard School of Public Health published these standards in 1950 in the "Radiographic Atlas of Skeletal Development of the Hand and Wrist," as a continuation of Dr. Todd's original work.

These standards are now being used in many ways. For example, in the Harvard School of Public Health study of child health and development, under the direction of Dr. Harold C. Stuart who began his research only shortly after Dr. Todd, hand films are being used in appraising the development of individual children from birth to 18 years. Most pediatricians do not use x-ray films routinely in making periodic appraisals of the child's health, but they are being used increasingly with children who have special health problems.

The stages of bone development follow the same order in all children, although the speed of development varies considerably. For example, the average skeletal age of 191 five year old boys studied by Dr. Todd was 62½ months, but a spread of 53½ to 71 months in skeletal age was required to include two-thirds of the boys.

The standard x-ray picture of the new-born baby's hand shows the shafts of the long bones of the fingers and palm, and the ends of the two long bones of the forearm where they adjoin the hand at the wrist crease. No wrist bones are seen in the new-born baby's x-ray picture, since they are still cartilaginous (not yet formed into bone), and therefore do not show in the x-ray film. Neither do the ends of any of the bones show, for these, too, are cartilaginous at birth. These cartilaginous cap-like areas at the ends of all of the long bones are called epiphyses, and they begin to change into bone only after the shaft of the bone has reached the proper stage of growth. Following a certain order, a center of bone (made by deposition of calcium) eventually appears in each epiphysis, and grows larger until the whole epiphysis has ossified or turned into bone. The small epiphysis and the shaft grow end to end, attached, yet fed through different blood vessels, until each is fully ossified. Then they fuse. Until this fusion occurs, the growth of the bone lengthwise takes place in the cartilaginous area between the hard bone of the shaft and the bony center of the epiphysis. After fusion is complete, growth in length ceases. Fusion of the shaft and the epiphysis of each bone of the fingers begins near puberty in a healthy boy or girl, though each child reaches this stage according to his own growth schedule.

The bony centers have usually begun to form in two of the eight wrist bones by the time the baby is three months old, but bone does not appear in the eighth and last wrist bone until much later; in boys at about ten years, somewhat earlier in girls. In fact, boys gradually begin when quite young to grow at a slower rate than girls. Ossification of all the bones of the hand and wrist is finally completed in the later teens, but earlier for girls than for boys.

To listen to Dr. Pyle read the story of growth, ma-

turity, health or disease seen in a child's hand film is to be reminded of Shakespeare's "sermons in stones." In a healthy child, she points out, the bones of the hand and wrist are representative of bone development in the whole body. Little Lucy, for example, would probably show a picture of three year old development in her whole skeleton, as indicated by the x-ray films of her hand and wrist.

But suppose that Lucy had suffered from malnutrition or some serious illness with fever just at the time when a bony center was due to make its first appearance in one of her wrist bones or epiphyses. If this affected her growth, the appearance of the new center probably would be delayed, with the result that one or perhaps several of the later centers would begin to develop before the affected center finally appeared. This may give useful clues to the child's health history, and to the time in his life when damage occurred.

Damage from illness, malnutrition or other disturbance may also be recorded across the shafts of the long bones of the forearm by white lines that are called lines of arrested bone growth, or bone scars. They indicate that something disturbed the balance between the growth of that bone lengthwise and the steady deposit of mineral matter in the shaft. Therefore, the edge next to the epiphysis where the deposit is made became unusually dense at the time when lengthwise growth was slowed down. New bone, formed after recovery, separates the scar and the epiphysis.

Dr. Pyle has recently developed another way of reading the record of health disturbance that may be left for a time in a child's bones. The average skeletal age for all the bones of the hand usually gives a good indication of the child's individual stage of development. However, if some disturbance has upset the symmetry of his development, some of the bones in the hand may be much more advanced or retarded than others. In such a case, the mere average of skeletal ages fails to tell the whole story. Dr. Pyle recommends observing the difference in skeletal age between the most mature and the least mature bones in the hand, to see how symmetrically bone growth is proceeding.

One boy's hand films were recorded from birth to 13 years. At the age of two years, eight months, this boy was stricken with polio. The illness promptly showed bone scars, as well as in a marked increase of the difference in skeletal age between the most mature and the least mature bones. He was ten years old before this difference decreased to what it had been before he had polio, though his limp had almost gone by the time he was seven.

Though it may seem strange that the hand film should tell anything about the child's height, it does reveal a great deal. Drs. Greulich and Pyle report a study of three groups of girls whose hand films were obtained from seven years on. At seven the average skeletal age of the girls in one group was just seven years, in another between seven and eight years, and in the third group, between eight and nine years. The most mature group skeletally began to menstruate when ten or 11 years old, the middle group at 12 and the youngest between 13 and 13½ years.

But what has this to do with their height? The close relationship of skeletal development and sexual maturity is shown in the facts that fusion of the epiphyses of the fingers begins near puberty, and that the preadolescent spurt of growth in height is almost finished in girls before the first menstruation occurs, when her characteristic adult height can be gauged. After this event, the epiphyses of the long bones of the legs, and of the vertebrae in the spinal column begin to fuse. When their fusion is complete, growth in height ceases. This occurs a year and a half or two years later in boys.

Washing Windows

I would not mind the assistance
Some husbands give their spouses,
If I could increase the distance
That separates our houses!

Leonard K. Schiff

The relationship of sexual maturity and skeletal development occasionally is dramatically demonstrated. Dr. Pyle reports the case of a little girl who menstruated at the age of seven months. During her preschool years she was unusually tall, but as happens in such cases, bone development went so rapidly that fusion took place before she had time to grow well in height, so that she could never be anything but very short.

Though the child's potential height and his rate of bone growth are largely determined by heredity, present-day investigations suggest that even the bones may be affected by love or lack of it when the child is growing. If this seems farfetched, consider an investigation of abnormally short children that was made jointly by the Harvard School of Public Health and the Massachusetts General Hospital. Of 100 children, so short that they might be thought dwarfed, 51 did not show the usual defects causing genuine dwarfism. Many of these children were thin and undernourished, and had histories of being poor eaters. Diets were low in calories, so that protein was burned for energy, leaving not enough for growth of body tissues, including bones.

An attempt was made to get the children to eat more, but it failed, largely because the children no longer had an interest in eating. A study of the social and emotional backgrounds in the homes of 21 of the undernourished children showed that nearly all of them suffered from moderate mental deficiency, or poverty, or chronic grief (perhaps occasioned by the loss of a parent), or from lack of good sound mothering in the home (as where the mother was delinquent or rejected the child emotionally). There was reason to believe that the emotional disturbances had much to do with the children's failure to eat. Physiological studies in some cases suggested that the pituitary gland (an important factor in stimulating or regulating growth) aided the bodies of these children to adapt to the inadequate diet by reducing its activity. The result was that the children utilized their food to maintain life and activity, although they could not reach normal size.

The stories told in bone remind us dramatically that the child's life *is* a whole, and that all its aspects play a part in his healthy growth.

LYMPH NODES

Barometers of Disease

Those "swollen glands" are a sure sign that your body is fighting off invaders.

by JENNIE Q. ADATTO

JIM EDWARDS recently had a sore throat from streptococcus bacteria that had lodged in his throat membranes. During his illness, Jim felt some tender, painful lumps in his neck. He became alarmed. His physician, however, assured him there was no cause for worry. These were lymph nodes that had swollen in reaction to the bacteria and accompanying toxins. As Jim's infection was cured, the lumps disappeared.

Lymph nodes are small, bean-shaped organs, ranging in size from pin-point to an inch long. They are strategically located along our system of lymphatic vessels to act as barriers against disease. Like police dragnets, they capture and hold many of the harmful cells that invade the body, from bacteria to cancer. The nodes are scattered throughout the body, but chiefly in the neck, armpit, shoulder and groin. They play an important part in the protective function of the lymphatic system which covers the entire body in a manner similar to the network of arteries and veins.

These little organs are constructed like small bundles of mesh and derive their defensive powers from the types of cells they are made of. Their two main kinds of cells are lymphocytes, which eventually enter the blood stream as one type of white, protective blood cell, and phagocytes, large cells capable of engulfing and destroying foreign particles. Many harmful substances are absorbed from our tissues by lymph instead of blood vessels, though they are eventually disposed of through the blood. In Jim's case, infectious bacteria were absorbed; as they slowly passed through the lymph vessels, the nodes closest to the infected area prevented them from continuing their circulation to the rest of the body and into the general blood stream. Enlarged, tender nodes are one indication of disease. Your physician often examines them to learn of focus or spread of infection.

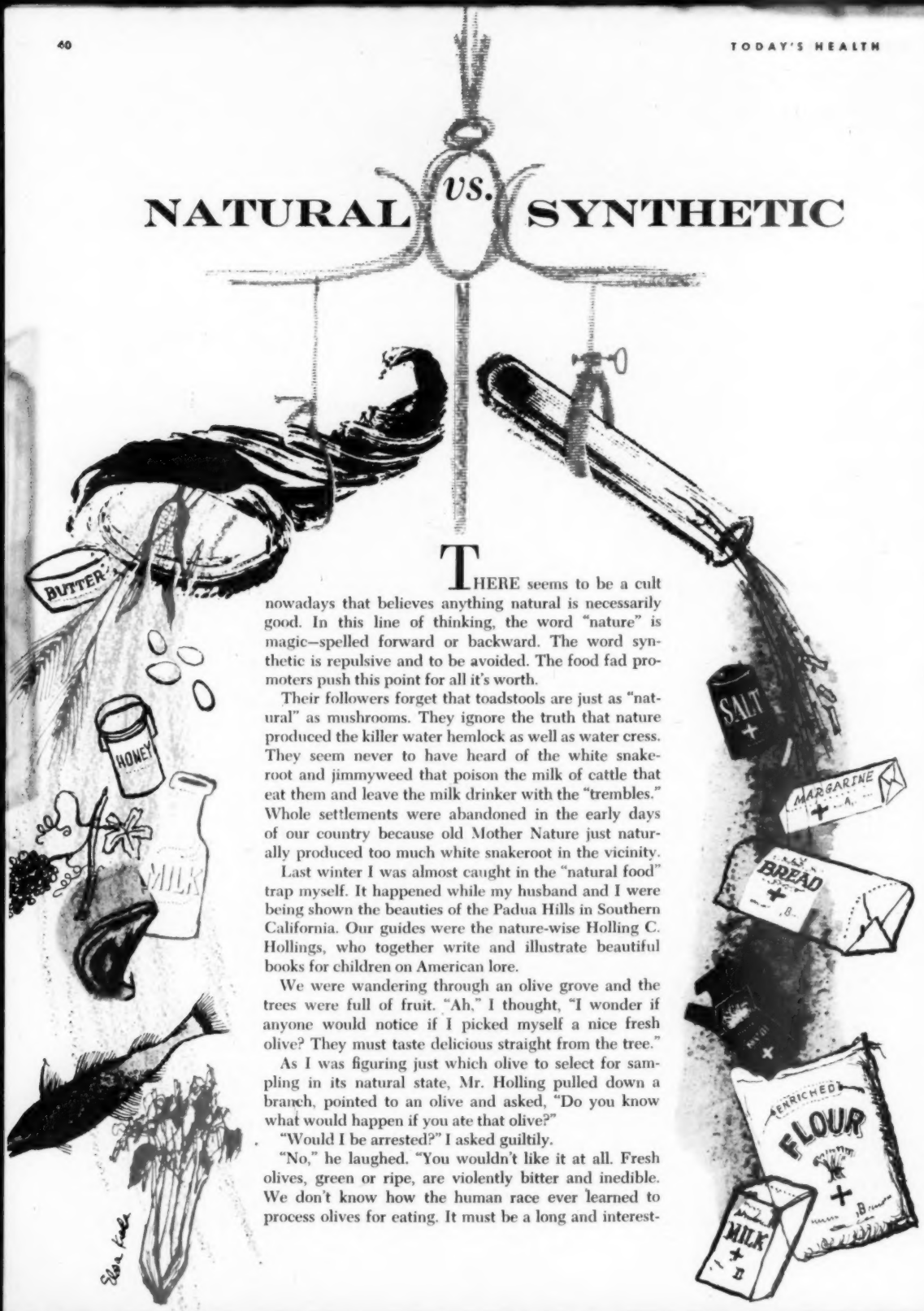
The role of the lymph nodes in spread as well as control of cancer is of tremendous importance. When a surgeon removes cancerous tissue, he often removes many of the adjoining lymph nodes, too, for they may be filled with cancer cells carried to them through the nearest lymph channel. This is well illustrated in breast cancer. Not only is the breast removed, but extensive surgery is performed to remove the neighboring lymph nodes in the armpit. A surgeon operating for cancer has one goal in mind: to remove all the growth. A single cell floating loose in the blood stream can start the growth again. If the disease the nodes halt is not treated soon enough, they in turn may act as a source of rapid spreading.

Lymph nodes play an important part in diagnosis as well as prevention of disease. For example, an x-ray picture of Bill Grayson's chest showed that his lungs were not clear. He had no symptoms of illness, but he went to his physician for further examination. His physician noticed enlarged nodes in Bill's shoulder. The question was what kind of bacteria or foreign cell was causing this swelling. Tuberculosis, a growth in the lung, or even a fungus infection might have been involved. A biopsy was performed. This is a small operation to cut out and examine a bit of suspected tissue. Under the microscope, the pathologist saw tuberculosis bacilli in Bill's lymph node. He was immediately hospitalized. Fortunately, Bill's disease was caught early, so proper treatment and rest enabled him to recover rapidly.

Nodes are numerous where they are most needed. For example the regions about the nasal passages and throat are abundantly supplied, for these areas are popular portals of entry for foreign substances. Even soot particles we breathe are caught in the lymphatics. The nodes near the lungs of people who live in industrial cities often become dark from dust and soot.

As part of the protective and defensive mechanisms of our body, lymph nodes do their part in screening out and showing up the enemies of our body.

NATURAL *vs.* SYNTHETIC



THERE seems to be a cult nowadays that believes anything natural is necessarily good. In this line of thinking, the word "nature" is magic—spelled forward or backward. The word synthetic is repulsive and to be avoided. The food fad promoters push this point for all it's worth.

Their followers forget that toadstools are just as "natural" as mushrooms. They ignore the truth that nature produced the killer water hemlock as well as water cress. They seem never to have heard of the white snakeroot and jimmyweed that poison the milk of cattle that eat them and leave the milk drinker with the "trembles." Whole settlements were abandoned in the early days of our country because old Mother Nature just naturally produced too much white snakeroot in the vicinity.

Last winter I was almost caught in the "natural food" trap myself. It happened while my husband and I were being shown the beauties of the Padua Hills in Southern California. Our guides were the nature-wise Holling C. Hollings, who together write and illustrate beautiful books for children on American lore.

We were wandering through an olive grove and the trees were full of fruit. "Ah," I thought, "I wonder if anyone would notice if I picked myself a nice fresh olive? They must taste delicious straight from the tree."

As I was figuring just which olive to select for sampling in its natural state, Mr. Holling pulled down a branch, pointed to an olive and asked, "Do you know what would happen if you ate that olive?"

"Would I be arrested?" I asked guiltily.

"No," he laughed. "You wouldn't like it at all. Fresh olives, green or ripe, are violently bitter and inedible. We don't know how the human race ever learned to process olives for eating. It must be a long and interest-

Nature often needs an assist, but we should use the products of our laboratories with caution.

by ANNA MAY WILSON

ing story. Fresh olives need to be soaked and soaked before they are fit for human use."

Yes, it must be a long, interesting and sometimes sad story, how we have learned to protect ourselves from the hazards of nature with which we share this world. We have learned pretty well, often by the hard way of illness and death.

And now we have something new to cope with—new synthetics, man-made products developed in chemical laboratories. Such substances take the place of some natural food nutrients or, when added to a natural food, protect it from spoilage or staleness or in some way alter the texture or flavor or nutritive value, or make it more profitable to manufacture or market.

Just like nature's own products, some of these chemicals are boons to mankind, some are hazards that we must learn to avoid or at least learn how to live with. And some of them are just plain poison!

There is, for instance, a pleasant new—and safe—use for calcium silicate. When added to table salt, it keeps the salt pouring freely in the stickiest humid weather. Our grandmothers who were frustrated by clogged up salt shakers would have welcomed this harmless use of a chemical. If the oleomargarine of her day had been fortified with the chemical additive vitamin A, as ours is today, she wouldn't have been so right in resisting its use. And Grandfather might have enjoyed his hash more if a pinch of monosodium glutamate had been added to enhance the flavor.

FOOD and HEALTH

Yes, the nature cultists are pretty funny when they sanctimoniously condemn all products of our chemical laboratories as bad, on the grounds that they aren't natural and only nature can produce food which is fit to eat.

And some of the rest of us are just as funny when, with faith and gullibility, we welcome indiscriminately each new product the chemists toss our way as a benefit to mankind. We seem to think that if it is harmful "they" would not allow it to be sold. Just who "they" are is a bit vague but it probably means the Food and Drug Administration. It must be remembered, however, that the Food and Drug Administration is operating under a law that was written before these new chemicals were used in food. There are holes in it big enough to let a lot of poison slip through.

The speed with which the chemists sometimes rush their discoveries from the laboratories into the food we eat is frightening. It's true they can learn quickly if a few doses of a substance act like a poison or not. But can they know what will happen if the new material is incorporated in food and eaten daily year after year? No matter how long it takes, testing should be done to tell us what happens when we accumulate the chemical in our bodies. Such testing might take years, not weeks or months.

Certain of the newer chlorinated hydrocarbons such as DDT are worth considering. Testimony presented recently at the Delaney Committee hearing in Washington indicated that it is possible for DDT—as much as 0.14 parts per million—to get into *the* natural food of all natural foods—mother's milk.

How does it get there? It gets into the mother's milk because it gets into her body. It gets into her body because we acted on the theory that the chemical, though harmful to pests, was harmless to us in small amounts. So we sprayed it all over everything, on the farms, in the streets, in the warehouses, in the stores and in our homes —before we learned that the small amounts can accumulate in our bodies until they become large amounts.

With such gross carelessness, it isn't the least surprising that some mothers may be feeding DDT to their babies along with their milk.

DDT is not harmless when it accumulates in quantity in our bodies. Chronic poisoning may result from long and constant eating of considerable though invisible amounts of it in our food. And the fact that there is wide individual variation in susceptibility to DDT makes it difficult to establish safe tolerance levels for using it with foodstuffs.

In cows, the equivalent of several lethal doses of DDT can accumulate gradually in fatty tissue without showing any outward signs. Then if the animal gets sick or for some other reason starts to burn the fat in her body, the DDT is released into the bloodstream and poisons the cow's liver, spleen, kidneys and nervous system, and she may die. We do not know that this happens in human beings, but it should certainly make us be careful about exposing ourselves to frequent small doses.

DDT is one of the new hazards we must learn to avoid or live with. Our farmers have been urged to stop spraying cows with DDT for fly control. Fruits must be washed thoroughly or peeled. And leafy vegetables should not be sprayed near *(Continued on page 57)*

KATHARINE BAIRD, M.D.

by MARY S. SHERN

For services rendered

Honoring a doctor who loved children and took her time with them

MOTHERS have reason to be grateful for every advance in medical science. If increased specialization and the growth of clinic-type child care offer our children better health it is indeed a blessing. However, such facilities are often so impersonal that we feel nostalgic about our old family doctor. He had one tremendous advantage in that he had a deep personal as well as professional interest in our welfare. Dr. Katharine Baird was a specialist who never lost this human touch.

Having traveled about the country, we had known a good many pediatricians before Dr. Baird. Like most parents we were always careful in selecting a doctor for the children, and we were rarely dissatisfied with the medical care they received. We frequently did find, though, that the relationship in general between doctor and parents and children left a great deal to be desired. I refer to the "little things" that go so far toward inspiring confidence in the child and making visits pleasurable rather than frightening. Also to a mother's need for guidance in handling numerous trivial problems as well as the more important problems that are the doctor's main concern.

We were enchanted from the moment we entered Dr. Baird's office, to find a waiting room attractively furnished and well stocked with toys. We soon learned too that appointment schedules were rigorously maintained. This may not be an exception, but any mother who has spent as many hours as I have holding fretful babies in dreary and crowded anterooms will tell you that it's still an all too rare experience!

More wonderful still was the fact that the appointments were so spaced that the doctor had ample time to talk with the children and gain their confidence before making an examination. This process was more than a perfunctory attempt to "win over" the child. It was no mere professional manner, no hasty application of First Principles of Child Psychology. With Dr. Baird it was apparent right from the start that she loved children, and the feeling was mutual. On subsequent visits she never failed to remember each one by name, always found time to chat with them with her unerring instinct for the subjects nearest their hearts, and always presented them with some small treat at the conclusion of the visit. Even when the children were getting immunization shots (which she always administered herself) there was no rebellion against the visits—no small tribute to her charm.

I remember one occasion when I reprimanded my older children for playing tag around the examining table while Dr. Baird was looking at the baby. "Don't do that," she said. "I've seen so many children frightened by a doctor's office that it thrills me when they act as if they owned it." Another mother was horror-struck one day to find that her small son had brought his pet turtle along for an examination. The doctor never cracked a smile but went over it thoroughly and then discussed its condition with the small owner, who departed in great satisfaction.

It was typical of the good doctor that in addition to her practice she was concerned with numerous child welfare activities in the community. She was also a foster mother to many European children to whom she sent food, clothing, toys and letters of encouragement. How she found the time remains a mystery.

Dr. Baird was more than a children's doctor, however. She was a mother's doctor. During routine visits, parents were encouraged to ask questions on any problem, whether it concerned health or behavior. Never did we have the feeling that our questions were too trivial to warrant the doctor's attention or that we were presuming on a busy person's time, as is so often the case. She never gave instructions without making sure they were clearly understood, but was so unfailingly tactful even in pointing out errors that we never felt she was "talking down" to us. Dr. Baird consulted with mothers. We got the impression that she was just as interested in our interpretation of the problem at hand as we were in hers, thus giving our sagging self-confidence a tremendous boost. Her comments on behavior problems were rarely arbitrary but always extremely logical. She had a wonderful talent for bringing such matters into perspective, often through effective use of *(Continued on page 56)*

SAFETY IN THE GARDEN

Photos by B. Newman (Three Lions)

A PEACEFUL, budding garden may seem an unlikely spot for accidents. But few areas around the home offer such a variety of traps to catch the unwary. Ordinarily harmless rakes and hoes, when wrongly used, may become hazardous things. A slippery walk, a misplaced pair of shears, a precariously set ladder can injure a careless gardener and send him indoors to view his blossoming garden from a window.

So, when you step into your back yard for your daily or week-end stint, keep in mind that even in that tranquil setting, safety must be considered. Know the difference between harmless and noxious plants; wear gloves when you aren't certain, and to protect against thorn and nettle scratches. Be careful of protruding or falling twigs, angry bees, chemical sprays. In supporting wobbly plants, make sure the stakes are easily seen. Don't make a trap of protective wire or cord—attach bits of white paper or rag. And never, never leave long-handled tools lying about where they can send you sprawling.

The young lady is heading for a nasty fall. Unused tools should never be left lying around the garden.

●

Watch it! Reaching out like this is simply asking for trouble. Get down and move the ladder closer.

●

Gloves will protect you from poison ivy—but short sleeves won't. Wash or discard contaminated gloves.

Slapstick comedians would get a laugh out of this, but it's risky business for the unwary gardener.

Make sure your ladder is firmly braced; when climbing down, get a good grasp and look where you step.

When pruning branches, don't stand directly underneath. Falling twigs may cause painful eye injury.

Chemical sprays may be fine for your plants, but not in your face. Spray with the wind, not into it.

Supporting stakes should be high enough to be seen and of a bright color to contrast with the foliage.

A stretch of string or wire means "Keep Off," but attach rags so that someone doesn't trip over it.

PROSTATE

If it is the real cause of Grandpa's "senility"—and if action is not delayed—today's medical science can make him "young" again.

SINCE it is apparent that more and more of us may expect to reach the age respectfully assigned to grandfathers, it would appear worth while to examine this venerable state of life with some alertness. The patriarch is often pictured as a benevolent old gentleman whose disposition has been softened by the years, whose interests are primarily his garden and grandchildren, and whose adjustment to advancing years may be taken for granted. Most of us have come to accept this as the expected state of affairs. There are those, however, who know a somewhat different old man, whose major activity is not the garden and care of future generations, but the maintenance of perpetual motion in the rocking chair, whose aim in life would seem to be to sleep all day and wet himself at night, and whose reaction to tidbits prepared by the cook for his enjoyment is one of complete rejection.

These traits, together with his forgetfulness and irritability, are usually attributed to senility. But actually the old gentleman may be the victim of a process which, if recognized and dealt with, could be corrected to the complete emancipation of Grandpa and his family. He may be—and chances are that he is—suffering from enlargement of the prostate. This condition is a constant companion of old age in the male, but in recent years its treatment has been revolutionized.

Before we speak further of the problem and its solution it is best that we return to the start of the century and consider Grandfather as a lad of 14. Here we find him at a crucial stage in his mental and physical development, for he is undergoing the metamorphosis characteristic of puberty. Through this process the boy becomes a man. It is mediated through a single gland in the base of the skull called the pituitary.

The pituitary rivals any device that man has created, for in its tiny capsule, no bigger than an acorn, it holds the key to the master switchboard of the human body. All further growth and development take place under the influence of its secretions.

Not only does it direct these functions, but when it decides that the individual has reached a maturity sufficient to enable him to procreate, it evolves a hormone that enters the blood stream and by this route stimulates the gonads or testicles to the production of two elements essential to complete the chain of life. In response to this glandular directive, the gonads manufacture the sperm, the agent of fertilization, and produce the male sex hormone. This hormone, testosterone, is responsible for the distinguishing characteristics of the male: his voice, hair distribution, musculo-skeletal proportions, energy pattern and sexual drive.

In this way nature accomplishes a single purpose through two avenues of approach, each vital to the other. On one hand, a body is built physically capable of procreation and the protection of the progeny, and on the other hand, a means of accomplishing this purpose is devised through a chemically stimulated sexual drive and the production of sperm.

Further study shows that the whole mechanism is even more remarkable. The sperm are readily destroyed by unfavorable environment. To overcome this a safeguard was designed by the creation of an additional gland, the prostate. This structure is responsible for the formation of a fluid rich in nutritive materials essential to the life of the sperm outside the body. It provides not only the energy requirements of these rapidly moving cells, but, by means of volume alone, the necessary buffer between them and the environment, so that they may survive long enough to accomplish their function.

The prostate grows and secretes this fluid only under the influence of the male sex hormone provided by the testicle. When the source of stimulation is removed by castration or disease, the prostate shrinks and ceases its no longer vital function.

About the size of a horse chestnut, the prostate lies at the base of the bladder. It surrounds the neck of that structure and the urethra or urinary passage, so that its secretions and the sperm have ready access to the outside. In selecting this site, convenient as it is, nature evidently committed an architectural error of some magnitude. With advancing age the prostate gland may become increasingly sensitive to the male sex hormone. Its cells respond not only by the production of fluid, but in addition increase in size and number, so that the gland grows beyond the functional need of the body. Physicians call this kind of growth benign prostatic

TROUBLE

Pinney (Mackinaw)

by WILLIAM C. BAUM, M.D.

enlargement. It is not malignant—not cancerous—because it remains orderly and stays within its designed boundaries. But it does grow, so that it projects into the bladder or compresses the urethra. The end result is an obstruction to the normal flow of urine very much as if a dam were built across a stream.

Practically all men past 50 have some prostatic enlargement, but not all reach the stage where symptoms demand treatment. One need not be a physician to imagine the nature of the patient's complaint. The person so afflicted notices that the size and force of his urinary stream has decreased. In addition the mass of tissue irritates the bladder, an unwilling host, and the bladder responds by increased activity. If the inconvenience of frequent and hesitant urination were the only concern of the patient and his physician, this morbid state would not constitute the menace to good health that it does. But these symptoms reflect a more serious underlying disorder, so insidious that it may undermine the patient's health without his knowing what is going on.

Again the reason is mechanical. The primary purpose of the kidneys is to clear the blood stream of waste products, and to do this they excrete these substances in urine in amounts of four to five pints a day. The bladder receives this urine at a fairly constant rate through two tubes called the ureters. When the bladder is filled to capacity its muscular walls contract and the patient voids to empty.

This normal process is altered when the enlarging prostate plugs up the lower urinary passage. The bladder must work harder to get the same amount of urine over the dam. In doing so it increases its muscle volume as does the athlete required to do additional work. Eventually, however, a point of diminishing return is reached, for the bladder muscle becomes fatigued. No longer able to force the urine over the dam, it begins to dilate like a balloon. Its walls become thinner instead of thicker, and its capacity increases from the normal pint to as much as two quarts or more.

At this time one of two things may occur: either the patient is unable to urinate or the bladder merely overflows like a full cistern and the patient voids constantly. Unfortunately this back pressure in the bladder is reflected up the tubes to the kidneys. They in turn begin to dilate and lose vital substance. When the pressure is great enough, they become unable to filter and excrete the waste products. These substances accumulate in the blood stream and give rise to a clinical state called uremia or uremic poisoning. This is why Grandad is so lethargic; this accounts for the irritability, loss of appetite and forgetfulness we often attribute to old age.

The goal of the physician is to treat the patient long before the sometimes irreversible effects of uremia and loss of bladder function have set in. He must have the assistance of both the patient and the patient's family, for early recognition depends on an awareness of those concerned that the symptoms, however insignificant they may seem, reflect a serious condition. The doctor, with a complete examination and laboratory tests of the blood and urine, can determine the degree of involvement and offer intelligent advice as to treatment. Generally speaking, surgical removal of the obstructing tissue is the most satisfactory treatment. But all patients with symptoms suggestive of prostate trouble are not necessarily candidates for surgery, and the decision is best left in the hands of the family physician or the consulting urologist, a doctor who specializes in the treatment of this disease.

In Grandfather's day the mere mention of prostatic surgery carried the implication of long hospitalization and great risk. It is understandable that old men often preferred to suffer and die at home rather than subject themselves to the operation. This fear still remains in the mind of many old enough to remember the tales of the survivors, and, magnified by the process of transfer and exaggeration, even now it often proves an effective barrier to needed early treatment.

Fortunately the doctor or specialist can now assure the candidate for prostatic surgery a short and satisfactory hospital course. With new drugs, modern surgical techniques and better nursing care, the hazards formerly associated with operative management of prostatic enlargement have all but disappeared. Life can begin not only at 40, but at 50, 60 or 70 as well.

It is understandable that this enthusiastic statement applies to those patients whose disease process is apprehended early, before complications have set in. Should the patient wait for dire events to force his hospitalization, he enters the institution under adverse circumstances of his own making, and preliminary steps may have to be taken before he can be considered a suitable subject for surgical treatment.

Here again, delay in seeking examination and the advice of one's physician only serves to prolong illness and decrease the chance for comfortable survival in old age. The practice of annual physical examination of all men past 50 would do a great deal to obviate such circumstances.

Elderly patients are usually gregarious souls, age being the common denominator that it is. In seeking out the company of others, be it at the club, lodge or country store, it is only natural that men of this age will turn the conversation to matters of mutual interest, including health. With the community philosopher as moderator the participants may engage in lively debate on the accepted

(Continued on page 56)

The Hillsdale Plan for TUMOR DETECTION

by FRANK L. RECTOR, M. D.

How your neighbors and your medical society can join hands to nab early cancer

IT IS new and strange for many people to learn that they should have a medical examination when they feel perfectly well. They have always felt that a doctor should be consulted only when illness has set in. With cancer, experience has shown that the earlier it is found the easier it is cured. It has also been demonstrated that many cancers can be found by careful search before the patient even suspects anything is wrong.

Various methods have been proposed for finding cancer in early, and therefore often curable, stages. Physicians of Hillsdale County, Mich., have come up with a new and practical program that has been copied by medical groups throughout the United States. The Hillsdale Plan for tumor detection was born after a careful study of cancer in that community. It was found that more than 60 per cent of the cancer patients surveyed had cancers that could easily be detected in the physician's office, in a minimum of time, because they were in the oral cavity, skin, breast, cervix, rectum or prostate.

Under the Hillsdale Plan, which was fully explained in a series of articles in the local newspaper, the citizens were asked to make appointments with their own doctors for an examination during regular office hours. The doctor would give special attention to the six sites listed above, but suspicious symptoms in any other part of the body would be investigated.

This was a new idea and the physicians waited with interest for the response. But not for long. The first month the plan was in operation more than 100 examinations were made, and in four years they have covered an appreciable percentage of the adults in that county of 32,000 people. Those examined are urged to come back annually or semiannually, and they are cautioned about the false sense of security that may follow one negative examination.

Although most of the check-ups are made by special appointment, patients often take advantage of a visit for other reasons. For instance, Mrs. C. took her three year old daughter to the doctor for a skin eruption. While waiting, she mentioned to the receptionist that she was feeling a bit run down, largely because of a pelvic discharge, but hated to take up a busy physician's time for such an apparently slight ailment. Examination showed that the child's eruption would have cleared up on its own, but the mother was harboring an early cancer of the cervix.

On another occasion, a farmer sought medical attention for a hand injury. While dressing it, the physician noticed an open sore on the back of the other hand. The patient volunteered the information that "the pesky thing wouldn't heal" although he had tried many different remedies. No wonder, for it was a well developed skin cancer.

Most of those who have the examination do not have cancer, but many do have other conditions that would cause trouble. During the four years the plan has been operating, 106 cases of cancer have been found in about four per cent of those examined. Records show that a few persons each year are examined by two or more physicians, usually because the patient wants to verify the presence or absence of cancer found by the first examining physician. In one month the same name was found in the records of three doctors. Instead of being critical of this patient, the physicians applauded her interest in her own welfare.

In spite of extensive cancer education in the last decade, some people still hesitate to face the issue squarely. They will go to their doctor and request

Doctor Rector is secretary of the Cancer Control Committee of the Michigan State Medical Society.

examination for some indefinite reason and then acknowledge, with an evident sigh of relief when questioned by their physician, that they really wanted the cancer examination.

Mrs. H., who has had her fourth periodic examination, was most hesitant to state her real reason when making her first appointment. Her relief at the absence of symptoms was so gratifying that she has become an enthusiastic booster for the program.

One marked advantage of the Hillsdale Plan is the minimum delay in having the examination. A person seldom has to wait more than a week for an appointment and often less, depending on the doctor's appointment schedule. This is an advantage for apprehensive patients, some of whom, because of mounting fear of the possible results, fail to keep their appointment when it is made long in advance.

Another important advantage of the plan is the preservation of the patient-physician relationship. As one lady expressed it, "I much prefer these examinations by my own physician in his office rather than by a stranger in some other unfamiliar place."

Much of the success of the Hillsdale Plan rests on the full cooperation of county health department personnel. The health officer and nurses talk up the program in their daily contacts with people throughout the county. The statistical clerk is responsible for the confidential records of examinations filed monthly with the health department by local physicians. The annual summary of these records gives a statistical measure of what has been accomplished.

The plan has become firmly established in the professional life of the community. It is accepted by the public as a desirable part of their community medical service. No patient gets special concessions, financial or otherwise, beyond those physicians generally give in their regular practice. Each physician makes his own charges for the services rendered. The local unit of the American Cancer Society pays for the examination of anyone unable to pay after the physician reports that the examination has been completed.

The physicians of Hillsdale County are proud of their program and its results. They are unanimous in their belief that the plan has made them so aware of their responsibility that every examination is a challenge to their ability to find cancer or establish that it is not present.

The plan, in principle, can be carried out in any community if the medical profession and the public cooperate in making it work. Reports have been received of hundreds of cancer examinations per month in large population centers where the plan is in effect. Details of organization and operation will vary but the result is the same—the finding of cancer in early and curable stages.

Food Poisoning

(Continued from page 29)

ough cooking, and that the foods most likely to be infected usually have to be cooked to be edible.

There may be little difference between the symptoms of the food poisoning due to staphylococcus enterotoxin and those caused by the salmonella. The onset of the former is apt to be more sudden and violent, whereas the salmonella type of illness is more frequently accompanied by fever and lasts longer, usually from one to three days.

The investigation of an outbreak of salmonella food poisoning is conducted much like that for the staphylococcus variety. We first try to discover the article or articles of food at fault by questioning both those who became ill and those who remained well. Laboratory tests are much more helpful in this type of outbreak, since we are dealing with an actual infection with bacteria that can easily be identified. Samples of the suspected food and of feces from some of the patients are examined. Not infrequently the same type of salmonella is discovered in both kinds of specimens, so that the results of the investigation are quite conclusive.

Preventive measures are of two kinds: protecting food from contamination with salmonella bacteria and thoroughly cooking those foods that are most apt to be natural sources of infection, such as meats, fowl, eggs and egg products. Refrigeration, by keeping down bacterial growth, is an aid in preventing this type of food poisoning also. Since cats and dogs may harbor salmonella germs, possible contamination of food from such sources should be guarded against and children should be restrained from intimate contact with pets that have diarrhea.

The avoidance of contamination involves both food storage and the food handler. The handling and preparation of food should not be undertaken by anyone who is suffering or has recently suffered from diarrhea. The hands should always be washed before preparing or serving food. Special attention must be paid to the possible contamination of food by rodents and vermin. Food should not be left exposed in the kitchen or pantry. All food containers should be kept covered. Any evidence of the presence of rats or mice or roaches calls for measures to exterminate them. When poisons are used for this purpose the greatest care must of course be taken to prevent them from getting into the food.

It should be evident that the prevention of these two varieties of so-called "food poisoning" rests primarily with the housewife and the caterer, the cook and the chef. Most outbreaks of this nature are probably due to faults of omission or commission occurring after the food is purchased, while it is being kept in kitchen or storeroom or is in course of preparation for serving. If the kitchen is kept sanitary and food is handled and prepared with due regard for proper hygienic measures, these very unpleasant types of illness should seldom occur.

★

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WHAT HAPPENED TO THAT PINT OF BLOOD YOU WERE GOING TO GIVE?

Focal Infection

(Continued from page 35)

the completeness of the repair of the damaged bone and irritated tissue left by the infection. When the day's appointment is completed, the dentist dismisses his patient, not with a "dead" tooth, but with a tooth whose "nerve" or pulp tissue has been replaced by a tightly fitting plug and whose root tip is again surrounded by normal living tissue.

The dentist, while perfecting root canal treatment for devital teeth, has uncovered other information that will be found useful in the final decision concerning the part played in disease by focal infection. His bacteriologic studies have designated the organisms most often harbored in an untreated devital tooth, the ones that would have to get out of the root end and into a person's blood stream in order to produce systemic disease.

Those most often found are ordinary surface streptococci which, except under exceptional circumstances, are not highly dangerous to the human host. Three carefully controlled bacteriologic studies have revealed that the virulent strains, the hemolytic streptococci which destroy red blood cells, are comparatively rare residents of an infected root canal. In identifying the germs that are present, these bacteriologic studies have also tipped off the dentist to the proper drugs for treating root canals and destroying invading bacteria.

The dentist's x-ray studies have established further useful information for the appraisal of the effects of focal infection. They have established that the x-ray does not disclose infection, merely shadowy changes in the density or health of the tissues surrounding a tooth and its root. One careful investigation revealed, in fact, that over 40 per cent of the cultures from a group of teeth diagnosed by x-ray as infected, were actually negative for bacteria. Here the dentist has made another contribution, since some reports, purporting to confirm the importance of dental foci, have been made on only radiographic evidence of infection.

Rheumatic disease of the joints may be selected as an example of a disease entity of obscure origin about which scientific information finally is appearing. Joint rheumatism, or arthritis, as it now is known, is a group of disease conditions, some of which affect the patient's entire system, not merely certain joints. The American Rheumatism Association in its Ninth Rheumatism Review listed 11 distinct types of arthritis from which patients may suffer and 13 types of non-joint disease which affect the tissues about joints and may be mistaken for arthritis. Such a classification is a definite aid in any decision made about the role played by devital teeth in rheumatism.

What are some of these joint diseases? There is arthritis due to a known infection such as tuberculosis, pneumonia, syphilis or typhoid; devital teeth certainly are not involved.

There is arthritis due to rheumatic fever. The "Ninth Rheumatism Review" concludes that excellent presumptive evidence points to hemolytic streptococci as the "direct or indirect cause." Indirectly, it appears that the tissues of some children are altered by this streptococcus or its products, just as some people become allergic to pollens, molds, wheat, face powders, strawberries, lacquers or milk. With the next sore throat comes a violent reaction in the joints and, sometimes, inflammation of the heart valves.

Dentists have found that, while the hemolytic streptococcus is rare in root canal cultures, the green-producing type, streptococcus viridans, is a common resident. The viridans can get into a person's blood stream *during the extraction of a tooth* and it can invade the inflamed tissue of a rheumatic heart valve before the natural defenses against bacteria can destroy them. Dentists and physicians are seriously concerned about the subacute bacterial endocarditis which results.

Then there is rheumatoid arthritis, the terribly crippling type of joint disease whose origin is so obscure. In many ways it also behaves like the rheumatic fever response of altered tissue to a new irritation. It fails to respond, however, to the sulfonamides and the new antibiotic drugs which are so effective against streptococci. Its symptoms can often be controlled with ACTH or cortisone.

There is evidence that, regardless of the type of treatment, one-fourth of rheumatoid patients improve to a point approaching a cure and half show slight to moderate improvement. The removal of teeth has not been shown to alter the course of the disease, once a person's joints exhibit symptoms, while loss of teeth may affect his ability to masticate a variety of foods.

Degenerative joint disease, osteoarthritis, is the most common joint disorder. All people above 30 years of age exhibit some degenerative changes in their weight-bearing joints but symptoms of bony change rarely occur before 40. This disorder appears to be one part of the aging process and some families appear more susceptible than others. Since it is not produced by bacteria, the extraction of teeth should not be expected to alter its course.

The arthritis of gout is now known to develop because crystals of uric acid get deposited in the joints of people whose systems fail to handle small amounts of minor food fractions properly. These minor food elements are called purins. Recently it has been found that a plant drug and

"I don't mind the talking to myself Doc, but I'm such a bore."

ACTH both produce a rapid disappearance of symptoms. Extracting questionable teeth is of no avail.

One of the most common causes of joint pain, or pain in the tissues about joints, is trauma—strains, bruises, dislocations, other injuries. The "Ninth Rheumatism Review" points out that still another common form of non-joint rheumatism is psychogenic, emotional in origin. Obviously, neither traumatic arthritis nor psychogenic arthritis should have any causal relationship with devital teeth.

Probably this brief survey of some typical joint involvements, as they are now accepted, has served the purpose of designating the role of devital teeth in one large segment of human suffering. It has not quite answered two remaining questions, however: "How do joint tissues become sensitized?" "Can one be sure that bacteria residing in the mouth do not serve as the agents which sensitize a number of specialized tissues in one's body?"

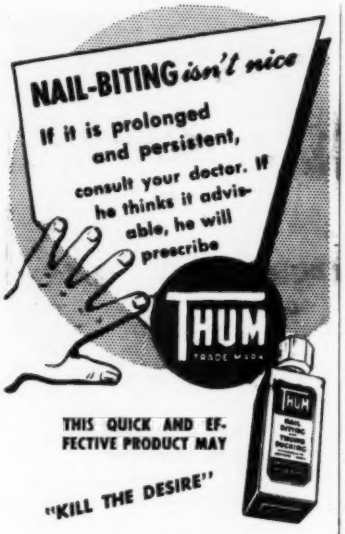
A possible springboard to the answers will take one back to Montreal where dental foci as the cause of systematic disease were indicted so seriously 40 years ago. It will take one to the laboratory of Hans Selye in the University of Montreal, to a person who, for years, painstakingly gathered evidence to construct a theory that disease can be produced in human beings by a "biologic alarm reaction."

Selye has built his theory on the foundation of "epinephrine alarm." Epinephrine, the product of the medulla or inner part of the adrenal glands, was studied by Harvard's great physiologist, Walter B. Cannon, who watched it operate in a cat frightened by a dog. With sound adrenals to produce a large quantity of epinephrine, his eyes reacted, his hair stood on end and he poised for fight or flight. With non-functioning adrenal medullae, the cat's system exhibited no alarm whatever. Selye concludes that many irritants, in addition to epinephrine, spring the human alarm response.

Take ACTH as an example. Stress stimulates the production of epinephrine by the human adrenal glands; the excess epinephrine in the blood stream stimulates action by one lobe of a small endocrine gland at the base of the brain, the pituitary; a hormone which acts to stimulate activity in the *outer* section or cortex of the same adrenal glands is sent into the blood stream by the pituitary (ACTH is an abbreviation for this adrenocorticotropic hormone); the adrenal cortex next produces still another hormone, cortisone, which markedly changes a person's tissue-responses to irritants. The injection of proper amounts of either ACTH or cortisone, the adrenal hormone whose production it stimulates, permits rheumatoid patients within a few days to leave their wheelchairs and go shopping.

Scientists, hence, have a new tool, the alarm reaction, with which to study a group of diseases of undetermined origin. Now they can better study such diseases as rheumatoid arthritis, rheumatic fever, persistent allergic conditions, lupus erythematosus and a condition, involving the tissues surrounding arteries, which produces inflamed and thickened walls in these blood vessels. All of these diseases have one characteristic in common: they involve a change in the behavior of the connective tissue, that common tissue which holds all of the organs, blood vessels, muscles and skin in place.

Until the research scientists can report definite results of study with this new tool, dentists will continue to remove infection from the mouth since infection can extend into adjacent tissues and it can place a heavy load on human body defenses. Dentists will want patients with rheumatic hearts protected by antibiotic drugs before teeth are removed. They will hesitate to remove devital teeth from any sick patients unless they know that these teeth are infected with dangerous bacteria. They probably will continue to hesitate to approve extractions as cures for connective tissue diseases unless further research establishes that specific mouth bacteria participate in the human alarm reaction, that these bacteria can sensitize distant body tissues in a manner which changes normal behavior and thus produces disease.



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Something to Live For

(Continued from page 19)

woman studied typing and now fills in adequately as a typist in the director's office.

The capacity to learn is retained throughout life in a great many people. You *can* teach an old man new tricks—if only the man wants to learn. Like other capacities, learning new things becomes rusty if unused. In the aged, a reluctance to try new things may be confused with an inability to learn. The oft-heard statement: "I'm an old-fashioned man"—or woman—is often advanced as an excuse for not trying something new. Emotional insecurity, more than a decline in the capacity to learn, may be responsible for this attitude.

It is vital that an old person remain active: it is an utter misconception that older people should remain inert, rocking away their last few years with as little mental and physical strain as possible. This attitude promotes decline and hastens death. The positive approach—finding things for older people to keep them mentally and physically alert—will prolong their lives and, what is more important, will make their added years ones of happiness and productivity. An 81 year old woman in a Kansas City home returned a rocking chair that her daughter gave her with the curt reply: "I have no time for a rocking chair. I'm too busy."

If, for one reason or another, it is imperative that a retirement program be carried out, the company should make certain that this retirement is a gradual, carefully worked out step rather than an abrupt, arbitrary, unplanned operation. Typical among these gradual retirement programs is the "step down" retirement plan of the Wrigley Corporation. On attaining a normal retirement age, an employee is first granted a one month leave of absence during the first year, continuing at work the remaining 11 months. The second year, he takes a two month leave. As the years go on, this leave is gradually extended until the employee has been able to adjust himself to a retired or semi-retired status through a gradual diminishing participation in actual employment.

The Standard Oil Company of New Jersey has been a pioneer in such planning. It not only has a strong pension program, but it also enables participating employees to increase their retirement annuities through a voluntary savings plan, and arranges conferences for employees about to be retired at which they are advised on how to get the most out of their retirement. They learn that "retirement from a job need not mean retirement from society." The sociological aspects of retirement, stressing the need to continue interest and activity in the new environment, regardless of his age, is promoted by this company, which counsels the retiring employee on recreation, medical care, exercise, plans for new work, habits of eating, drinking and sleeping, hobbies and the like.

They Laughed When I Said I Had Mumps

Had your ailments as a child,
When you should have—nice and mild?
Lucky people, healthy lumps,
Safe from sudden, tardy mumps.

Sad the grownups such as I,
Late afflicted, like to die,
Full of grownup king-size paining
And the even worse explaining!

Richard Armour

Among other companies giving advice to employees who are about to be pensioned are the Allis-Chalmers Manufacturing Company, which not only discusses the problems of retirement but arranges for visits four or five times a year to see that the retired worker is satisfactorily adjusted to his new way of life, and the Lockheed Aircraft Corporation, which recently announced that its counseling service would be headed by a man "who has successfully planned and completed his own retirement."

But there is a big field in which such plans are missing. In 1950, the Equitable Life Assurance Society of the United States asked 355 concerns, "Has your company estab-

lished any formal or informal program to indoctrinate and prepare employees for retirement?" The answers showed that only 46 companies had done so, while 304 said they had no plans, and five failed to reply.

Evidence is at hand, however, to indicate that companies are concerned about the problem. A course on "later maturity" has been conducted at the University of Chicago, supported by the U.S. Public Health Service, as an experiment. A number of companies sent representatives to the course so that they could carry back the plan to the people in their company. Health factors, financing, dietary pointers and psychological considerations were discussed.

Another positive step to be taken for our old people is the establishment of group projects and clubs, such as the Golden Age Club. They provide companionship, recreation and work for people who would otherwise be shut in without much to do and without company. One such club on the West Coast has over 500 members all over 65. They have their own clubhouse and auditorium. Their attendance is probably better than any social club formed by younger groups. They play cards, run dances, listen to lectures and operate charitable activities. Among other things, they hold an annual Christmas party for the largest orphanage in the city. The people are rich and poor, but they have in common one vital thing, old age, and perhaps a related similarity—loneliness.

A doctor, commenting on this particular club, remarked that the incidence of disease declined immeasurably as the members took a more active part in this work. Certainly many old people have disabilities which no emotional lift can cure. But the will to tolerate a disease and the will to get well are affected by the frame of mind. If a person can attain a better outlook generally, it is easier for him to live with and partially overcome his physical limitations.

Another false notion about older people is that they have nothing to live for because they'll die soon anyway. Life can be fascinating or meaningless at any age. If life is interesting, there is always something to live for. It is when one feels lonely and useless that life loses its meaning. Witness Grandma Moses or Winston Churchill, who at 77 returned to 10 Downing Street as prime minister of England. Or America's elder statesman Bernard Baruch, or Pulitzer poet Carl Sandburg, who, at the age of 71, wrote his very first novel, and a successful one. Some people at 75 are in many ways a good deal younger than others at 55. It depends upon physical condition, outlook and emotional makeup.

Another step we must take is to set up an investigative program to determine just which jobs older people can do. The study of old age, gerontology, represents a relatively unexplored field, particularly in the job activity area. This study could first determine how much energy is required in a certain job over an eight hour day. Could an elderly person provide that much energy? Demands for manpower may again require what was commonly called during World War II "scraping the bottom of the manpower barrel." Dr. Leonard A. Scheele, surgeon general of the U.S. Public Health Service, predicted such a study would find that three million of the people over 65 not now working could be usefully and gainfully employed. Even if the average were only 50 per cent effective, three million persons doing half a day's work, added to the nation's total manhours, would represent an important bonus in production.

One overwhelming—even selfish—argument for doing something about and for the aged confronts everyone. Old age is something, if we're fortunate, that's likely to happen to all of us.

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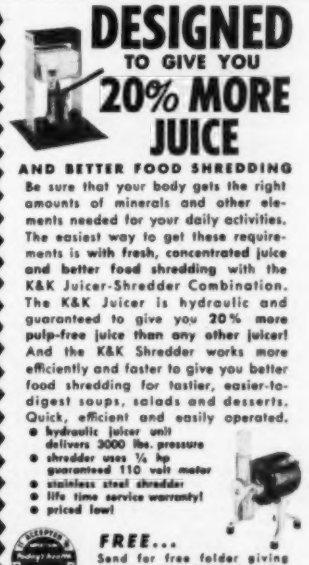

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For Services Rendered

(Continued from page 43)

one of her finest attributes—her marvelous sense of humor.

Mothers were also tremendously grateful for her realism. She recognized that the demands on a mother's time are almost infinite, particularly in a large family, and that it is not always possible to do what is best for each individual child. The needs of the family as a whole must be the main consideration and priorities assigned accordingly. On one occasion, she came to our home to find the children improved after a siege of minor ailments but the parents close to distraction from the strain of coping with three lively convalescents. I asked her wearily if she wanted to prescribe anything and she said, "Yes, I prescribe a baby sitter. You need to get out for an evening, and if you can't find a sitter you trust I'll come myself." That was certainly service above and beyond the call of duty!

Needless to say, our limitless confidence in "our" doctor was a blessing in time of real illness. She answered our calls promptly, regardless of the hour, and always came to the house without delay if I felt it necessary. I feel quite sure that the sight of her did as much for the sick child as the medication she prescribed.

It was inevitable that a doctor like this would often be run-down and overworked, for she certainly never spared herself. Such was the situation one summer when her case load was unusually heavy. Among her patients were several youngsters with polio, and in September the disease struck the doctor herself. We learned of her death with the sense of having lost our best friend.

Doubtless there are other pediatricians who mean as much to other parents. I believe the great majority aspire to but are prevented by the fact that they have so many patients it becomes physically impossible to devote the time to each one. In my experience, though, Dr. Baird's devotion to her chosen profession and the attributes that made her so wonderfully well qualified for it were unique.

Prostate Trouble

(Continued from page 48)

treatment of disease. This is a healthy attitude and a means of disseminating knowledge, but it must be admitted that the accuracy of the conclusions reached by the group may at times be open to question. The prostate gland has received its share of such discussion, and from that have come common questions worthy of answer. It would not seem amiss for us to elaborate here on a few of them.

There are few diseases treated by surgery for which someone has not already suggested using drugs, with the intent of avoiding operation and its attendant risks. The good surgeon agrees that this is a laudable tendency, for he is not just an expert technician, but a man whose wisdom through experience is such that he may offer the patient its benefit in the choice of treatment, medical or surgical.

Many patients have heard that drugs, "injections" or "shots" are available for the relief of prostate gland trouble, and that by these means surgery can be avoided. A considerable volume of research has been carried out in a great many institutions throughout the world to develop a substance that would shrink or destroy the obstructing tissues of the benign enlarged prostate gland without injuring the patient. Several agents have been found of benefit in the partial alleviation of symptoms, but no medicine yet available will actually cause significant reduction in the enlarged gland. Drugs are used in patients who are not suitable candidates for surgical treatment by reason of other diseases complicating the aging process, but they will not reverse the adverse effects of an enlarged prostate on the bladder and kidneys. There are other indications for the use of drugs, for when administered early enough, they may allow the patient sufficient comfort to continue in a normal routine of activity. The physician who administers them under such circumstances does so, however, with the idea that frequent check-up examinations are an essential part of the program, and that, should it become apparent that the process is progressing, he will discontinue the medication and advise surgical intervention before irreversible changes have set in.

Faced with the necessity of surgery, the patient may understandably ask by what route the surgeon contemplates removal of the prostate. There are two types of operation on the enlarged benign prostate gland. In one the gland is shucked out of its shell, a process called enucleation, very much as if one were to remove a horse chestnut from its cover. In this type of operation the incision is made in the lower abdominal wall just above the pubic bone (for either the supra-pubic or the retro-pubic prostatectomy), or between the scrotal sac and the rectum (perineal prostatectomy). In all three operations of the enucleative type, the prostate gland is exposed either through the bladder or through the capsule or shell of the prostate itself so that the surgeon may remove it with his fingers.

The second major surgical category is transurethral prostatectomy. As its name would imply, this operation is done by means of an instrument introduced through the urethra. Fitted with a telescopic lens system and a light, so that the surgeon may actually see the steps in the removal of the tissue, this device enables him to remove the obstructing tissue by means of a high frequency electric cutting current.

Several factors determine the route

or method which the surgeon may elect. It should be emphasized that no one procedure is applicable to all cases, and the choice is best left with the surgeon. The patient may look forward to a reasonably uncomplicated recovery in the majority of cases.

After the operation is over and the patient is in possession of his discharge paper he often stops for a confidential chat with his physician, and in the course of the conversation asks whether there might have been any way by which the disease process could have been aborted through regulation of diet, or regulation of habits in youth. The doctor can assure the patient that the only man who may reasonably be certain of freedom from prostatic enlargement is the eunuch or castrate. All men in possession of their testes are potential candidates for this condition. Sexual habits ranging from abstinence to excess have been accused, but neither extreme has any effect on the size of the gland, nor does diet, alcoholic indulgence, infection or fluid intake. The only solace appears to be the satisfaction that at least today we have a great medical advantage in the treatment of this condition, an advantage which our grandfathers did not share.

Natural vs. Synthetic

(Continued from page 41)

the time of harvest. We should treat the chemical with the great respect that is due a useful poison.

Human life and health are so precious that no new chemical should be considered harmless just because it can't be proved it has killed someone. The burden of proof should be quite the other way around. Consumers have every right to consider a new chemical "guilty" until it has been proved innocent beyond all reasonable doubt. Don't be in a hurry to accept all the new products that are concocted if you want to be certain not to learn the hard way.

And don't try to eat one of nature's own fresh olives until you have soaked it in lye and washed it well in clean water over and over and over again. Nature needs help sometimes.

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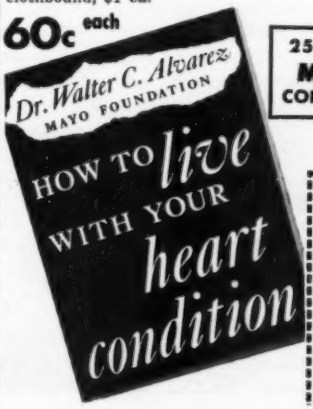

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Let's Be Uncivilized!

(Continued from page 21)

indicated. If you announce yourselves gray-haired grandparents (and don't think many of them don't enjoy a trip through there), a tour of the border lakes with simple "up and over" portages will be suggested. Fishing? They'll route you to Kawnippee where I defy you to make as many as seven casts without hooking a fighting fish that has never seen an artificial lure before.

Quetico has many other things to attract you. There are the petroglyphs at Lake Agnes—stone writings of the ancient Indians still visible on the cliffs. There is the beauty of Louisa Falls; the soft cadences of the loon that swims, a nightly sentinel in the lake by your campsite. You will meet animals living their natural lives without knowing man or gun.

As you paddle silently up a shallow bay virtually choked with beautiful pastel water lilies, you may see a moose lift his dripping muzzle from a snack of the delicious roots. That animated hatrack is quite interesting and no doubt you'll want pictures. But I sincerely advise you to take them from a distance and have them enlarged later. Particularly if it is toward the fall of the year when the bearded gentleman is thinking of going awooing! He's a stubborn individual if he gets the idea that you are competition, and the skeletons of hunters armed with high-powered rifles have been found right next to the skeletons of the moose they shot. And if you meet him on the trail, shuck off the pack or canoe you're carrying and make for a tree with low-hanging branches.

Along the portage where the blueberries grow the thickest, you may see a bear industriously making the berries fly into his mouth with flaying paws. Ninety-nine times in a hundred you can walk over and pick berries from the same bush with no more than a curious sniff from the bear. Of course, there *is* that hundredth bear! But in my experience and those of my friends who have lived long in bear country, Bruin will bother only your ham or bacon or other fats. Of course, if the food happens to be very fragrant in the pack on your back, walking up to a bear would be inviting trouble. And taking that pack into the tent at night would be similarly foolhardy. The pair who "hid" their pack under the canoe found in the morning they could get in it from top or bottom. The bear hadn't bothered to roll the canoe over—he had gone right through.

The best way to protect your food is to select a tree about 50 feet from camp and hang the packs on a slender limb that will barely hold your weight. We had one persistent devil in a base camp at McKenzie bay. He just refused to give up and woke us each night with his snorting and crashing trying to get at the food. We found a rough-barked tree, hung the pack by one of the smaller low branches and then filled every crack in the bark we could reach with a liberal dose of pepper. Sneeze? I'll bet that bear is still sneezing, and he never came back.

It is a miserable feeling to have a vacation cut short because an animal got your food, or because you or your outfitter forgot an essential item. Paddling and portaging is rugged work and you'll find yourself eating as you never ate before. Unless you and your outfitter know each other well it is a good idea to examine the packs before you shove off. Make sure, for example, that all dry cereals and flour, salt, sugar and such stuff is in cloth bags tied with a drawstring. And make sure you have enough. During the rush season your outfitter might have some careless or incompetent help. I opened a food pack one trip and found four two-pound cans of sauerkraut in it. Eight pounds of bulk and little nourishment. Where every ounce has to be carried on your back, concentrates are ideal. Take powdered milk, eggs and soups, dehydrated onions, potatoes and carrots—and lemon juice. In its concentrated form it will add tang to the fish. It makes delicious lemonade and I know no better thirst quencher. It can be made into a delicious sauce for rice pudding.

Chocolate, prunes, raisins, apricots, split peas, oatmeal, pancake flour, fresh eggs and bacon are good breakfast staples. If you're one of those "toast and black coffee" nibblers, prepare for a change. On a strenuous trip, my son and I used to top off breakfast with the left-over oatmeal fried in bacon grease. It isn't the tastiest lunch in the world, but it gives enough energy to carry you for hours on the trail.

The Little Doctor

by DAVID ATCHISON and PETER J. STEINCROHN, M.D.

We plan our grub lists carefully in advance. For a two week canoe trip, we know we have to have 14 main meals. Some of these can be provided by fishing. Others must come from smoked ham (we take about five pounds), corned beef, canned beef stew, frankfurters or canned chicken. We always plan for two vegetables besides potatoes. We prefer one of the instant coffees to carrying the coffee pot and ground coffee, and we carry many tea bags. Small cans of evaporated milk are handy—a sharpened splinter of wood plugs the hole in the unfinished can.

The Wily Gardener

His tomatoes? Well, those
That he planted in rows
And carefully tended
All turned up their toes!
But the seeds that he simply
Leaned over to drop
In the field next door
Have a beautiful crop!
You could call it luck!
He learned it by chance.
But ever since then
That's the way that he plants.

Virginia Brasier

Our lunches are made of soups, cheeses, summer sausage, baked beans, canned spaghetti, jams and peanut butter. Puddings, a jar of pickles, butter sealed in a mason jar, sugar, salt and pepper and instant biscuit mixes complete our bill of fare. But don't let your eyes be too big. Estimate the weight of your grub. In addition, you'll have to carry a sleeping bag each, a tent and ground cloth, a raincoat and changes of underwear and outer clothes, mess kits and cooking pans. We use Boy Scout nesting kits plus a four quart bucket and a ten inch skillet.

I have a keen, heavy knife. I have never carried an axe or wished for one. "Squaw wood," the lower dead branches of a standing tree, are sufficient to cook any meal. It gives a fire that makes little smoke and you can stand right over it without being uncomfortable. We roll newspaper, boil it in paraffin and tie it in sticks about an inch in diameter and a foot long. Instead of matches, we carry two 49 cent windproof cigarette lighters with an extra tin of fluid and flints. With the combination of the waxy newspaper and the lighter we have never found the forest too wet to get a fire going in jig time.

If your experience with canoes is limited to those for rent on resort lakes, be prepared to learn something new. Most outfitters provide a guide's model. They are stable and safe in water that would swamp a motor boat. And canoes do not tip over; people fall out of them. Unless you deliberately lean over the gunwale and try, a canoe will not tip. In fact, at most canoe regattas, a bowman from one team and a sternman from another get into a canoe and the bowman tries by all means possible to overturn the canoe while the sternman seeks to keep it on an even keel.

On a Quetico trip the "bow rudder" might be a good stroke to know. If the man in the bow sees a submerged rock ahead, he thrusts his paddle ahead of the canoe and pries against the bow as if he were using a crowbar. This will move the canoe over the foot or so necessary to avoid damage.

To keep the canoe on a straight course without switching the paddle from side to side, the "J" stroke is a good one for the stern man. As the paddle is brought back past the hip, turn it sideways so the blade is parallel to the canoe, rest the lower hand against the hip and give the top of the paddle a sideways flip, just enough to bring the bow of the canoe dead on the landmark you've been paddling toward.

We always lash all duffle to the center thwart of the canoe. Just in case we should tip over. The canoe, even when swamped, will hold all the duffle and still support us.

What has this to do with your health? Try it! There's a magic in the odor of the hot sun on the fragrant pine and the cool sting of the spray on a browned skin. There's alchemy in the hunger and satisfying sleep earned through the swing of the paddle and the sweat of the portage. There's peace and tranquility in this solitude that does something for the jangled nerves that are so often a part of "civilized" life.

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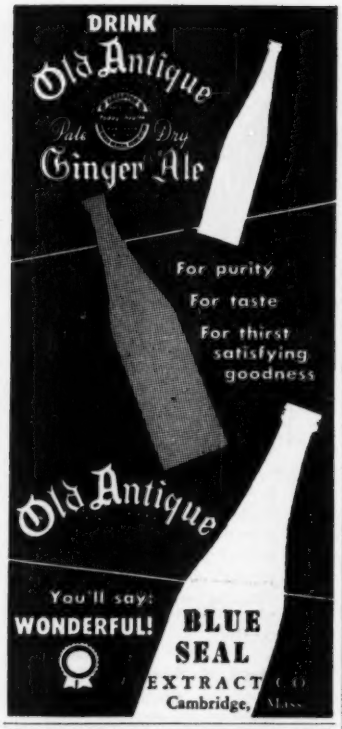

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Makeup Bases

(Continued from page 27)

the edges carefully to eliminate a patched look that will defeat the cream's purpose. If the discoloration is on the face, a powder base may be used over the pigment cream to give a more natural appearance. It is usually advisable that the foundation preparation and the pigment cream be the same brand to insure that they will supplement one another in concealing the discoloration. These pigment creams are not intended for ordinary use.

Liquid makeup bases are preferred by many. These preparations tend to settle on standing and must be thoroughly shaken before use to disperse the pigments. They are thought to minimize drying, but this factor must be judged by each person after using them for a while.

A correct technique in applying makeup bases is essential for satisfactory results. First, they must be applied in a good light. Since these bases add color that varies somewhat from the natural coloring, care must be taken that they are blended at the hairline, over the jaw and neck. The secret of success is in thorough and even blending. For special occasions, you may wish to experiment with two tones of foundations. The lighter will accent the area to which applied and the darker will de-emphasize it. Whether or not the foundation is followed with a face powder depends on personal preference. Where the manufacturer has directions for use, it is advisable to follow them. They invariably ensure the best results. Manufacturers realize that the wearer of their cosmetics is their most effective advertisement. Therefore, they will suggest only those methods of application that are best suited to the cosmetic.

We can expect as a result of the widespread and versatile uses of makeup bases that product quality and techniques of application will continue to improve.

The New Lifesaving Method

(Continued from page 25)

There was lively discussion among onlookers on whether the lifeguards were using the correct method of artificial respiration, how long the victim had been in the water and how it happened. For years the prone pressure method had been officially accepted.

While all of this was going on, the lifesaving squad of the local fire department arrived at the scene with mechanical artificial breathing apparatus, such as a resuscitator or inhalator. They were lifting their equipment out of the truck when the victim suddenly made several gasps and began to breathe, but irregularly. Previously, a doctor had been called; on his arrival he took charge. He ordered the rescue squad to administer oxygen to the victim by means of the inhalator. He treated the victim for shock and ordered that he be taken to the hospital.

The doctor and the foreman of the lifesaving crew assured the crowd that the correct method of manual artificial respiration had been used. The physician explained that the back pressure-arm lift method had been adopted by many interested agencies—the American Medical Association, the Armed Forces, the American National Red Cross, the American Telephone and Telegraph Service, the U. S. Bureau of Mines, Boy and Girl Scouts of America, the Federal Civil Defense Administration, the U. S. Public Health Service, the National Research Council, the National Safety Council. Other agencies are planning to endorse it at the time of this writing.

The decision to give precedence to the back pressure-arm lift method was the result of several years research on animals and human beings. Furthermore, information was obtained that the back pressure-arm lift method (under the name of the Holger-Nielsen method, 1932) had been used successfully for several

years in Scandinavian countries, principally in Denmark. Within the last ten years significant research has been carried forward in several universities on the general subject of artificial respiration. This intensified research was prompted by the consideration of mechanical breathing apparatus by the Council on Physical Medicine and Rehabilitation of the American Medical Association. Evidence was collected from field surveys of the effectiveness of mechanical appliances for administering artificial respiration. One of the appliances studied, the tank type respirator (commonly known as the Drinker respirator or iron lung) showed that mechanical equipment could be employed effectively for giving artificial respiration over long periods. Another device, which had been developed in Germany, known as the pulmotor, was improved in this country and offered to the life-saving agencies under the general name of resuscitator. These appliances were submitted to the Council on Physical Medicine and Rehabilitation for consideration. After many years of experimental work the resuscitators were accepted as reliable equipment for giving manual artificial respiration. The evidence also showed that accepted apparatus for artificial breathing produces greater exchange of air in and out of the lungs than manual methods.

While the experiments were in progress, investigators, working independently in different universities, gradually came to the conclusion that the manual methods required further study. The bulk of the work comparing methods has been recent. Studies of air exchange induced by artificial respiration have been made (1) on experimental animals, (2) on volunteers holding the breath, (3) on cadavers, (4) on sick or injured persons who have stopped breathing, and (5) on volunteers given barbiturates with curare, or other anesthetics, to stop breathing completely. Studies of other aspects of respiratory mechanics and physiology, blood and circulation and tissue changes have been made. Thus, an extensive literature has been compiled since the prone pressure method was adopted.

Many manual methods were studied—the prone pressure (Schafer), the Silvester, the Schafer-Nielsen-Drinker, the Emerson, the Schafer-Emerson-Ivy, and the one adopted, the back pressure-arm lift, a modification of the Holger-Nielsen method. The evidence indicates that the prone pressure method gives least ventilation when needed most, that is, in deeply asphyxiated people. The others mentioned are satisfactory, but have certain limitations, such as difficulty in carrying out by one person.

Preparations are now being made by the previously mentioned organizations, associations, agencies and clubs to give instruction in the new method of artificial respiration. Everyone who is physically able, youth or adult, should learn how to apply the back pressure-arm lift method. By writing the Council on Physical Medicine and Rehabilitation of the American Medical Association or the American National Red Cross, further information and detailed instructions can be obtained.

Yes, You Told Me

I wish the recent-surgical
Waxed seldomer liturgical.

Margaret Evelyn Singleton

Technical Ticklers

The following questions are based on information in this issue of *Today's Health*. Turn to page 63 for the answers.

1. What should industry consider seriously about the aging worker?
2. What is the secret of success in applying makeup bases?
3. What method of artificial respiration is now recommended?
4. What is the name of the male sex hormone?
5. What are two skin changes associated with pregnancy?
6. What is unusual about the x-ray of a newborn baby's wrist?
7. Why are low-heeled shoes a must during pregnancy?
8. What is the best place to take your children during polio "season"?

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Work During Pregnancy

(Continued from page 23)

is more susceptible to colds, pneumonia and other respiratory infections. Most doctors are opposed to strenuous sports for the mother-to-be, but walking is considered beneficial. I solved the time-for-exercise problem by walking to work, a distance of about a mile, and by taking my lunch to work (it takes less time to eat a lunch that's already prepared and in your desk drawer than it does to go through the cafeteria line or order in a restaurant) so that I had added time at noon to be outside.

Your doctor will emphasize the necessity of good diet. You shouldn't "eat for two," as the old adage goes, but continue eating the amount you're accustomed to, making sure that you drink a quart of milk a day and include the Basic Seven food groups daily. You may need extra iron or vitamin D—the doctor will advise you—but ordinarily if you eat plenty of fruit, especially citrus fruits, a serving of potatoes and plenty of green and leafy vegetables, plus one or two eggs, lean meat and whole grain cereals and bread, you're doing all right by your little charge. Raw vegetables are usually best, because even the most careful cooking destroys a certain amount of food value. Leave the salt cellar unshaken and pass up the rich desserts. At least five or six glasses of water daily are needed to aid the various body processes, including flushing away waste products.

Since the baby's waste products are carried off by your blood stream, they must be eliminated through your own excretory system—your urinary tract and sweat glands. This increase in perspiration adds to the problem of keeping well groomed; so you'll find your daily bath more essential than ever.

There are a number of discomforts and annoyances about being a working mother-to-be. As pregnancy begins, you may be troubled with nausea. Obstetricians say that one-third of all pregnant women escape without this symptom; another third suffer from it; and the remaining third may be greatly helped by the various aids known to physicians.

I was among the lucky one-third. I had a few queasy moments, but nothing like what I had expected. Too many women, doctors say, approach pregnancy with the belief that nausea is part and parcel of the process of becoming a mother. It's not. But even if you find that breakfast hasn't its customary stability or appeal, there are steps you can take to combat this discomfort.

First of all, remember that it's usually an empty stomach that revolts against food. Keep a box of crackers by your bed and when you first wake up in the morning eat a couple, then wait 20 minutes before getting up. Eat breakfast immediately. This is where friend husband comes in; talk him into taking over the kitchen duties in the morning for a few weeks. Perhaps eating a little lunch during your morning and afternoon rest periods will ward off any trend toward nausea during the rest of the day. If you continue to be subject to a seasick stomach, your doctor may be able to help you by prescribing some of the drugs that are actually used to combat airsickness and seasickness.

Another minor ailment that troubles the working mother more than the waiting-at-home mother (for the simple reason that she can't lie down to ease away the aches) is the muscle and nerve strain that comes with annoying suddenness after you've been sitting in one position for a long time. Shifting position helps only a little, once these aches are upon you—then the treatment is massage or a hot water bottle. Incidentally, be sure to report these aches and pains to your doctor so that he can check to be sure they are only muscle involvements—if the ache occurs over a kidney, for instance, and is accompanied by difficulty in urination, the doctor will want to treat that condition.

Coming in Today's Health
Beware the Black Widow
by John L. Goffin, M.D.

As you come closer to the great day, your expanding midriff will present a perplexing clothes problem. Modern obstetrical care insists that the total weight gain not exceed 22 pounds, but it will seem to you that all of those pounds are concentrated around your mid-section. For the first four or five months, the clothes you've been wearing may be adapted by ingenious button setting over, seam letting out and other adjustments. You'll be surprised, for instance, how long you can wear a suit skirt that's only half-zipped and still look reasonably well groomed. Two of my double-breasted suits gradually made the shift to single-breasted style as I approached the six-months mark of pregnancy. But eventually comes the day when you can say, with more truth than ever before in your life, "I simply haven't a thing to wear."

Selecting a maternity wardrobe should be done with an eye to the best possible styling, at a minimum of expense. After all, the clothes you purchase at this time won't be worn more than two or three months—but, at the same time, you want to appear at your best.

I chose two suits for office wear: a brown flannel and a gray gabardine. I avoided the thin, sleazy rayon faille or rayon gabardine, because they wrinkle quickly and never look as trim as firmer fabrics. Both suits were conservatively styled. (They won't go out of style—a point to consider if you're already thinking about a brother or sister for Junior.) These suits were fashioned with double zippers, half-circling the waist, to ease out by fractions of inches, just as needed, and the jackets were box style, not the typical page boy which, I think, fairly shouts that you're expecting.

A pair of slacks, with this same double-zipper arrangement, and a finger tip length smock to wear over them served for lounging at home. These three outfits, together with a special garter belt and maternity-fashioned lingerie, completed my buying. Total cost: under $75. I could have got by on less, but I felt I owed it to my job to appear as well groomed as possible.

Low-heeled shoes are a must. If your feet are so used to high heels that they feel uncomfortable in flats, then compromise on a Cuban heel. But high heels, besides contributing to the danger of falling, tilt the body forward and make even more difficult the work of balancing your increasing frontal bulk.

Overshoes to keep your feet warm and dry and a head covering are paramount rules in the cold weather time of your pregnancy.

Maintaining a rather even speed in your work during the day will lessen the fatigue you're bound to feel. Avoid hurrying, worrying over your work, and getting tense and nervous. Do the best you can and call it a day. If you still feel unreasonably tired, tell your doctor and he may prescribe something to help you—ovarian hormones are used to good advantage by many pregnant women.

If your work makes you nervous and ill-tempered, you had better give it up. After all, it's secondary to your most important task—producing a healthy baby. But, if you find that working keeps up your interest, gives you a regular schedule and the welcome security of another and yet another paycheck in the bank for you and Junior to spend, keep at it—work your way through pregnancy.

Answers to Technical Ticklers

(*See page 61*)

1. Abolishing any arbitrary plan of retirement. ("Something to Live For," page 18.)
2. Thorough and even blending. ("Makeup Bases," page 26.)
3. The back pressure-arm lift method. ("The New Lifesaving Method," page 24.)
4. Testosterone. ("Prostate Trouble," page 46.)
5. The "mask of pregnancy" and striae on the abdomen. ("The Skin," page 32.)
6. No bone formation has occurred at this age. ("Stories in Bone," page 36.)
7. Because high heels tilt the body forward and thus interfere with body balance. ("Work During Pregnancy," page 22.)
8. Nowhere. It is best to keep them at home. ("Polio Pledge," page 72.)

The Skin

(Continued from page 33)

oily skin, particularly toward the end of pregnancy. Usually, existing acne clears up during pregnancy.

Striped lesions or striae may appear on the abdomen, hips and sides of the buttocks, and about the breasts. These lines and streaks are about a quarter of an inch wide and vary from one to several inches in length. Although they do not disappear completely, they do fade and become less conspicuous. Striae occur to some degree in about 90 per cent of all pregnant women, and are more pronounced in the white than in colored races. Although some physicians claim that daily gentle kneading of the abdominal skin prevents formation of striae, this has not been proved in enough cases.

During pregnancy, hair growth sometimes increases so that by the end of the first three months there is a fine down over the face and body. This usually disappears after delivery. Some women with localized areas of baldness of the scalp develop complete hair growth during pregnancy but lose this new growth after delivery. Some women develop thinning of the hair and areas of baldness during pregnancy. They usually regain their hair after delivery.

Some women develop redness or erythema of the palms. Others de-

velop telangiectases—blood vessel lesions with a central point from which radiate tiny legs to look like spiders—over the upper trunk.

The features of the face may become puffy or coarse. This is probably not due to the accumulation of fluid, as was once thought, but rather to a thickening of the skin.

Some women complain of itching, especially during the latter half of pregnancy. This should be reported to the physician so he can make sure that there is no underlying disease.

An uncommon occurrence is the development of skin tags during the second three months of pregnancy. There are usually several about the neck and breasts. They cause no symptoms and usually disappear completely in a few weeks or months following delivery, leaving no scars.

Middle and Old Age

Older people frequently complain of itching around the genitalia, called pruritus vulvi and ani. It is important in such cases to have a physician make sure that the patient does not have a disease like diabetes or a local infection. In most cases, the itching is not related to a serious underlying disease and can be relieved by simple local measures.

Undesirable hypertrichosis, or increased hair growth, occurs. Women who have heretofore had smooth skin may find hairy growth over the chin. Men develop hairs in the ears.

Stasis dermatitis from impaired circulation is most frequently seen about the ankles and lower legs and is associated with varicose veins. This dermatitis may be difficult to heal if the patient is either overweight or undernourished or suffering from some illness. Usually however treatment of the local dermatitis plus correction of the varicose veins brings improvement.

The most common skin lesion in the person past 40 is hyperkeratosis, a condition in which the epidermis or outer layers of the skin thicken. The chief types of hyperkeratosis are of the seborrheic and senile variety. Seborrheic keratoses occur chiefly on covered areas of the body, are usually raised, light brown to black, and have a greasy crust. They usually occur on seborrheic or oily skin. They do not give rise to cancer and require treatment only if the patient requests it for cosmetic reasons.

Senile keratoses, on the other hand, occur chiefly on exposed surfaces of the body. They are usually found in elderly people, especially those who have worked out of doors for many years. These lesions may be flat or raised, gray-brown or black. The surface is not greasy. This type of keratosis may develop into cancer and should be removed.

It is important that the elderly person realize that the skin becomes drier with age because secretions of the sebaceous and sweat glands decrease. Consequently, he should not take hot baths or use strong soaps.

It can be seen that many of the skin changes occurring from infancy to old age are part of a normal process of growing older and as such should cause no alarm. However, in the presence of pronounced changes —intense itching, acne, enlargement or discoloration of a pigmented mole, or the development of warts or keratoses during middle or old age—a physician should be consulted for proper diagnosis and treatment.

Sentinels of America's Health

(Continued from page 31)

improvised sick bay jammed with stricken seamen, and other victims prostrate on deck chairs, posing as passengers.

In all, he uncovered 87 cases of typhoid fever. The Hansa's captain had planned to dock as scheduled, evade quarantine and pick up a thousand passengers waiting in New York for the return trip. Instead the Hansa was refitted to take care of its sick and sent back to Germany without passengers.

Before clearing customs and immigration, passengers and crew file past the quarantine inspectors who check their health documents. Everyone who enters the United States must have a certificate stating that he has been vaccinated successfully against smallpox within the past three years. This is an important safeguard, for in 1951 there were over 215,000 cases of this disease in 71 countries. Last year quarantine inspectors themselves vaccinated 266,422 people who failed to meet this requirement.

Today a uniform certificate of vaccination and inoculation is in use throughout the world, but in earlier years inspectors rejected a variety of fraudulent certificates. Some were issued by an Irish doctor who charged 20 shillings for his vaccinations but only ten shillings for a statement.

The international certificate has several safeguards against such tricks. It must be signed by the immunizing physician and certified by

the local or state health officer, with his official seal. Today most nations require smallpox vaccination, but the exceptions include France, Germany, Great Britain and Italy.

The relaxation of the requirement leads to epidemics. Following agitation by the Anti-Vaccination League, Britain repealed its compulsory immunization law. Result: several smallpox epidemics, the worst during 1951 in Glasgow and Brighton.

The disease was introduced to Brighton by an R. A. F. officer returning from duty in Pakistan. After striking down the officer, his fiancee and her father, it leaped beyond their home, infected laundry workers who had handled their clothing and flashed through a local hospital ward. Before it was subdued, it had claimed 30 victims.

Only one smallpox incident has marred the record of border quarantine. It occurred in 1947 when a Mexican with smallpox in the incipient stage—before any symptoms showed—crossed the border on the way to New York. When the disease became apparent after his arrival, it resulted in a dramatic mass immunization. Although he died, there were only 12 secondary cases and two additional deaths.

Returning U. S. citizens, and visitors from other countries, are often required to show evidence of other immunizations, such as inoculation against yellow fever and cholera when arriving from infected areas. It depends upon the speed of the journey. Immunization is required only if the trip is completed within the incubation periods of the diseases —six days for yellow fever and five days for cholera. Travelers may encounter yellow fever in the northern third of South America, the Republic of Panama and a belt across the middle third of Africa. Cholera is confined largely to India, eastern Pakistan and Burma with reliable reports not available from China.

Quarantine inspectors receive detailed information on disease conditions throughout the world relayed from the U. N.'s World Health Organization. When they board a vessel they learn its previous ports of call and determine quickly whether passengers could have been exposed

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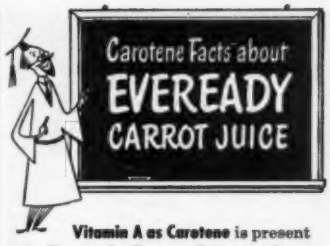

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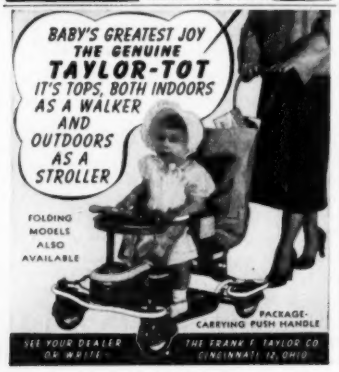

to a quarantinable disease. If its incubation period elapsed en route without illness, danger has passed.

Even before they go aboard, they must be notified by radio if there are any cases of major communicable diseases on the ship. A comparatively few vessels meet the strict requirements for "radio pratique." These ships radio a full health report 12 to 24 hours before arrival, and then may proceed directly to the dock without standing by for the usual inspection. Even these ships are checked, however, when the quarantine inspectors go aboard to assist immigration officials.

An added precaution against incoming sickness is the rapid visual inspection of each person arriving in the United States by quarantine inspectors, and a less evident surveillance by officers who circulate among the passengers. People who exhibit symptoms of communicable disease can be detained and isolated in hospitals. The illness need not be one of the serious quarantinable diseases, but may be as conventional as measles or pneumonia.

The quarantine division often discovers defects or diseases which, by law, exclude aliens from the United States. In 1951 over 7000 excludable aliens were intercepted before they entered the United States. This saved U. S. taxpayers an estimated $30,000,000 in hospital care during a year when the total budget for foreign quarantine was about $3,000,000.

Quarantine physicians overseas are often under intense pressure to pass people with serious diseases. Doctors are threatened, cajoled and sometimes offered lavish bribes.

Minor physical defects, not sufficient to prevent entry into the United States, are noted on immigration health records. Recently a laborer on a government project filed a claim for $25,000 in damages, asserting that his eyes had been injured in an accident for which the government was liable. A check of immigration records revealed that a quarantine doctor had reported this same eye defect when the laborer entered the United States. His case collapsed.

In another instance, a burglary suspect showed police valid immigration papers. However, a check of the master health files revealed that the man to whom the papers were originally issued lacked part of one ear lobe. The suspect did not. Faced with this evidence, he quickly confessed to the burglary, to illegal entry into the country and to the theft of another man's immigration papers. He was promptly deported.

Despite their rigid overseas examinations, immigrants receive another medical screening when they arrive in America. This final screening uncovers such deceptions as the last-minute substitution of a sick person for a healthy one. An immigrant suspected of having an excludable ailment is sent to a dispensary, like the one at Ellis Island, or is isolated for further observation. So efficient is this procedure that, if tests establish good health, the patient can be released within two days.

A patient is returned to the country from which he came only after it is established beyond doubt that he has one of the physical or mental conditions on the excluded list. This unhappy return voyage is not necessarily the last chapter in the immigrant's story. Thus a person excluded because of active tuberculosis may be admitted when the disease has been stable for a year following its arrest.

Samples from every imported shipment of shaving brushes are laboratory-inspected to determine if they are free from anthrax spores. Spores have been brought in on brushes manufactured from improperly sterilized bristles of diseased animals. After World War I there were several anthrax deaths in which the spores on shaving brushes apparently entered through facial cuts.

Aircraft present a unique threat in that they complete their flights within the incubation period of diseases like yellow fever. Also they may transport dangerous insects from one country to another. Today the compulsory spraying of plane interiors at least 30 minutes before arrival from a disease area prevents entry of yellow fever and malaria mosquitoes.

When a plane lands, the quarantine inspector isolates its passengers in a "hold room" while he makes his health checks. Another inspector combs the plane for insects.

Heredity

today's health picture

PUSHING two buttons on this chart at the Museum of Science and Industry in Chicago—one for a father and one for a mother with the characteristics indicated—will show the likelihood of similar characteristics in their children. For example, where both parents have brown eyes, the children are likely to have brown eyes, too; where both parents have blue eyes, the children are likely to be blue-eyed (unless one or both parents have even a slight element of brown, which might dominate in the child). Where one parent has blue eyes and the other brown, the children's eyes are more likely to be brown than blue, but blue-eyed children can appear if the brown-eyed parent has blue-eyed elements in his ancestry.

The microscopic bodies in the reproductive cells which determine heredity are called genes. The inheritance of the child, with respect not only to color of eyes and hair but to body size and other physical characteristics, mental and emotional tendencies, maximum length of life and so on, depends on the combination of genes.

Scientists once believed that heredity determines everything we are. Now it is realized that environmental influences are important, even though they cannot change basic heredity. Man in his growth and development is partly what he was born and partly what his life makes him. The latter is what we can influence by the application of modern scientific knowledge.

Insect eggs have been found on propellors, fuselage, wings and tail assemblies. Inside the plane, inspectors check favorite insect haunts. In one type of airliner, for example, mosquitoes gather invariably in the cocktail lounge, where they are attracted by the glow of the soft fluorescent lights.

Many of the quarantine division's techniques have been incorporated in the new international sanitary regulations adopted by 70 nations of the World Health Organization. When this health code goes into effect on Oct. 1, 1952, world travel and trade will become more convenient and safer for everyone. Meanwhile the sentinels of America's health stand guard 24 hours a day.

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by ELIZABETH B. HURLOCK, Ph. D.

Chins and Character

ACCORDING to popular concept, a receding chin means weakness of character. A protruding or "bulldog" chin, by contrast, is traditionally associated with a strong-willed, determined, aggressive personality. Comic strip characters, caricatures and strong and weak-willed persons portrayed on the stage and screen have all strengthened the belief that there is some mystic relation between chins and character.

The idea is so widespread that people who know better—and surely most people do—are likely to find it coloring their thinking. The fact is, of course, that the shape of the chin is determined by the size of the lower jaw in relation to the upper. A lower jaw that is shorter than the upper will recede, causing the chin to slope inward. When the lower jaw is the larger, it protrudes and the chin is prominent—a "strong" chin by the chances of bone structure. The relative size of the jaws is determined by heredity.

But so long as the myth survives, many people with receding chins will feel embarrassed and self conscious. The fear that they have weak character will prey on their minds and in time they are likely to develop an inferiority complex.

When this occurs, their actions reflect their feelings of personal inadequacy. They may be shy, self-conscious, diffident and self-effacing. When they do, their behavior feeds the notion that it comes from having a receding chin.

In a sense, this is correct. But it is the idea that does the damage, not the chin itself. The chin has had its influence on character only indirectly. Were it not for the traditional belief, there would be absolutely no influence. Only when chin shape influences a person's attitude toward himself can it have any effect on behavior.

The influence of a protruding chin on personality is often just the reverse of that of a receding chin. Because the possessor of a bulldog chin is often treated by others as if he were strong, determined and aggressive, he may assume that he is. The result is exactly what is traditionally associated with a person who has a protruding chin.

Young children, as a rule, are completely unaware of the meaning of social traditions. For that reason, they are uninfluenced by them. To teen-agers, though, superstitious beliefs of this sort are not only familiar but apt to be believed. The youngster entering his teens is beginning to form a definite concept of himself as an individual. This concept is a reflection of the opinions about him held by his parents, teachers, friends and associates. The tradition about chins and personality may play a role too important to be ignored.

Because of the serious effects a receding chin may have on a child's whole personality, parents should not ignore it. Modern orthodontists can do excellent jobs of improving receding chins, provided children see them when their jaws are still in the formative stage. The matter should be discussed with the dentist soon after the first permanent teeth erupt.

Many parents delay too long. Some people still think that nature will do its own corrective work, or that, since the child shows no concern about the shape of his chin, there is no need to do anything about it; some insist that they cannot afford the cost.

Each of these attitudes must be challenged. The chances are that a person's chin will recede more, rather than less, as he reaches maturity. No young child is particularly concerned about the shape of his chin, but that has nothing to do with how he will feel when he reaches adolescence; then it may be too late for the orthodontist to do his best work.

And finally, money spent to improve a child's appearance is an investment in his happiness. In this light, most parents will manage to afford it, despite the personal sacrifice that may be involved.

On this page each month you will find a discussion of some significant phase of child development, from infancy through adolescence, with practical answers for specific problems. Address your questions to Elizabeth B. Hurlock, Ph.D., c/o TODAY'S HEALTH, 535 North Dearborn Street, Chicago 10.

Questions

TEMPER TANTRUMS. Our three year old son's tantrums worry us since they seem so much more violent

than those of the other children. I have read that too frequent tantrums may indicate some abnormality or an error in training and management. What is "too frequent"?

Illinois

Most children the age of your son lose their temper one to three times daily. A much greater number can be regarded as "too frequent." There is nothing abnormal about temper tantrums in a three year old. The more frequent they are, however, the more important it is to look for the cause. Sometimes a young child gets angry because he is incapable of doing what he set out to do. For example, the block tower he so laboriously built topples over just as he puts the finishing touches to it. Most tantrums, however, come from environmental frustrations. Try to give your son an opportunity to do the things he is capable of. Don't interfere with him when he seems slow and inefficient to you. Keep him from becoming tired and overexcited. Temper tantrums normally begin to wane when a child enters school.

NEW EXPERIENCES. My 12 year old daughter gets very upset, even to the point of vomiting, at any new experience, such as going into a new grade at school, visiting friends or acting in a school play. When she was 5 years old, we lost an older daughter. Could that have something to do with her not wanting to be away from home?

New York

It is very possible that the death of your older child was such an emotional shock to your daughter that she has never fully recovered from it. The scar it has left is in the form of a vague uneasiness of new experiences of all sorts. This anxiety leads to digestive upsets which embarrass her, thus increasing her anxiety. She needs professional help. Ask your doctor to recommend a child guidance specialist and put your daughter in his care. *Don't just hope that she will outgrow this condition.* The chances are that it will become worse rather than better as she grows older and has a larger number of new adjustments to make.

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Books on health

The Lamp Is Lit

The story of WHO. By Ritchie Calder. 37 pp. 25 cents. WHO Division of Public Information, Columbia University Press, New York 27. 1951.

"Health may be the greatest blessing, but half of the people of the world do not know what it means." With this theme, the pamphlet proceeds to tell what the World Health Organization is doing to promote health as defined in the organization's constitution—a state of complete physical, mental and social well-being, not merely absence of disease or infirmity. It acts on the idea that health services must "emerge and grow and cannot be imposed, even by most enlightened authority." The work of WHO is distinctly promotional, instructional and cooperative. It trains people in the health specialties to work with their own people; it develops standards for uniform practices wherever possible; and it works closely with the Food and Agricultural Organization, concerned with mass hunger, and the United Nations Educational, Scientific and Cultural Organization, concerned with mass ignorance, in order to establish decent standards of living and well-being. Without food, people cannot survive, without health they cannot win the food necessary for health, and without knowledge of how to better both, they cannot improve either. This pamphlet is well worth reading.

DONALD A. DUKELOW, M. D.

A Sex Guide to Happy Marriage

By Edward F. Griffith. 352 pp. $3. Emerson Books, Inc., 251 W. 19th Street, New York 11. 1952.

Americans are the most married and most unmarried people in the world. We marry early, and we marry and divorce often. Sex has always worried people, the young and the long-married alike. This book gives the "facts of life"—straight, frank, detailed and explicit. It covers all the subjects one expects in such a book, including the control of conception and the spacing of children. R. L. Dickinson's illustrations are clear and to the point. Small wonder the book has had 25 editions in England.

This, however, is an Americanized edition. An important feature is the state by state directory of marriage counseling agencies in this country, including those that deal with family spacing and infertility treatment. This is a good book not only for the novice, but for those who think they know it all as well, because successful marriage does not happen by chance.

BRUNO GEBHARD, M.D.

Why Children Misbehave

By Charles W. Leonard. 48 pp. 40 cents, 3 for $1. Science Research Associates, Inc., 57 West Grand Avenue, Chicago 10. 1952.

Behavior is a matter of circumstances. What is good behavior for one child may be bad behavior in another. What is good behavior at one age may be bad at another age. Behavior that is acceptable at home might not be acceptable in a public place.

The borderline between good and bad behavior is extremely fine. The line between misbehavior and delinquency may be merely an entry on the police record.

In reading this pamphlet, parents will get an idea of the danger signs that suggest the potential seriousness of developing misbehavior which is gradually becoming chronic misbehavior and may lead to delinquency. To combat misbehavior, par-

ents should have some idea of how a child feels and why he behaves as he does. Often an ounce of prevention, based on sincere love for the child and an exhibition of confidence in his abilities, will direct the misbehaved child into constructive channels.

DONALD A. DUKELOW, M.D.

Measurement and Evaluation in Physical Health and Recreation Education

By Leonard A. Larson, Ph.D., and Rachael Yocom, Ph.D. 507 pp. $7.50. The C. V. Mosby Co., St. Louis. 1951.

This comprehensive volume explains the methods and techniques of evaluation and measurement in these fields of education and describes the tools available. Fullest coverage is given to physical education and related subjects. Happily, measurement and evaluation are regarded as a means to an end rather than an end in themselves. The volume is essentially a technical manual which will find its greatest use as a text for prospective teachers in these areas and as a reference for those in service.

FRED V. HEIN, Ph.D.

Body Dynamics

By Eleanor Metheny. 225 pp. $3.50. McGraw-Hill Book Co., Inc., New York. 1952.

This small volume stresses the dynamic approach to posture and body mechanics. Chief emphasis is given to the efficient use of the body in daily activities, though a series of preventive exercises are included. Those who are interested in the intelligent use of exercise and relaxation will find a good deal of help in this book. Its clear style and clever illustrations make it enjoyable.

FRED V. HEIN, Ph.D.

The Cost of Sickness and the Price of Health

By C.-E. A. Winslow, Ph.D. 106 pp. World Health Organization, Geneva. 1951.

Mankind suffers from many grave preventable diseases which not only involve human suffering, but impose a heavy burden on the economic resources of the regions involved, says this author. His data supports with reasonable clarity the theme that prevention is not only better than cure; it is also cheaper. Any attempt to translate the statistics of life expectancy and disease prevention into terms of financial value to the community is difficult because of differences in the way statistics are drawn up in various countries.

Dr. Winslow believes that the World Health Organization should guide programs and studies in which the more fortunate areas may cooperate with those of less development for the common goal of a healthful, prosperous and peaceful world. A program is not enough since success is measured by the actual delivery of essential services, and immediate action is urged.

FRANK G. DICKINSON, Ph.D.

Our Children Today

Edited by Sidonie Matsner Gruenberg and the Staff of the Child Study Association of America. 366 pp. $3.95. The Viking Press, New York. 1952.

The authentic background of this book, namely the Child Study Association of America, is borne out in the authoritative collection of materials of which the book consists. It is impossible to single out even a few of the leading writers in child health and guidance and related areas who have contributed to this book. The book covers in a comprehensive way the entire field of child growth and development, child health and child guidance with special and valuable emphasis on parent-child relationships and modern family living. It should be a valuable addition to the library of any family where children are or are expected.

W. W. BAUER, M.D.

Auditory Training for the Deaf

By Mary Wood Whitehurst and Edna K. Monsees. 99 pp. $3.12. The Volta Bureau, Washington, D. C. 1952.

The basic lesson material and a method for teaching the profoundly deaf adult to get the optimum benefit from his residual hearing and his hearing aid are included in this book. The 38 lessons are well graded in listening difficulty. The materials are presented in simple, rhythmic language well within the average vocabulary, auditory limitations and interest of the congenitally deaf adult who is trying to learn to use a hearing aid. Achievement tests are provided for the last six lessons. Two experienced and highly competent teachers of auditory training have collaborated to write a useful text.

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Here, in briefest form, is the practical application of all that science has learned about polio. Today's Health is glad to publish it in cooperation with the "March of Dimes" Foundation, whose experts drew it up.

POLIO PLEDGE

If polio comes to my community

I WILL REMEMBER TO

Let my children continue to play and be with their usual companions. They have already been exposed to whatever polio virus may be in that group, and they may have developed immunity (protection) against it.

•

Teach my children to scrub their hands before putting food in their mouths. Polio virus may be carried into the body through the mouth.

•

See that my children never use anybody else's towels, wash cloths or dirty drinking glasses, dishes and tableware. Polio virus could be carried from these things to other people.

•

Follow my doctor's advice about nose and throat operations, inoculations or tooth extractions during the polio season.

•

Be ever watchful for signs of polio: headache, fever, sore throat, upset stomach, tenderness and stiffness of the neck and back.

•

Call my doctor at once and, in the meantime, put to bed and away from others any member of my family showing such symptoms.

I WILL NOT

Allow my children to mingle with strangers, especially in crowds, or go into homes outside their own circle. There are three different viruses that cause polio. My children's group may be immune to one of these. Strangers may carry another polio virus to which they are not immune.

•

Let my children become fatigued or chilled. Overtired or chilled bodies are less able to fight off polio.

•

Take my children away from our community without good cause. Polio time is the time to stay at home and keep with everyday companions.

•

If polio strikes my home

I WILL

Have confidence in my doctor, knowing the earlier the care, the better my child's chances for complete recovery. I know that my child has a better than even chance to recover without paralysis.

•

Call my local chapter of the National Foundation for Infantile Paralysis immediately for information or help. The telephone book or my health department will tell me how to reach the chapter.

•

Remember that whatever financial help my family needs for polio care will be given through the chapter. This is made possible by the gifts of the American people to the March of Dimes each January.

For more information about polio write

THE NATIONAL FOUNDATION FOR INFANTILE PARALYSIS

FRANKLIN D. ROOSEVELT, Founder
120 Broadway, New York 5, N. Y.

WHEN FOOD INTAKE *is inadequate*

When the child or adult fails to consume adequate amounts of food supplying essential nutrients in proper amounts for good growth and vigorous health, medical experience has demonstrated the prophylactic value of a dietary supplement providing substantial quantities of virtually all needed nutrients—protein, vitamins, minerals, carbohydrate, and fat. Hence choice of a dietary supplement should be determined by its high content of the gamut of essential nutrients.

It is apparent from the data shown below that Ovaltine in milk can serve well in markedly increasing the intake of virtually all known nutrients. Taken daily during periods of inadequate consumption of other foods, Ovaltine in milk offers a means for preventing nutritional deficiencies which can undermine general health or retard recovery from illness.

The appealing flavor of Ovaltine makes it acceptable to children as well as adults, including the aged. Ovaltine in milk is easily digested, an important feature in the presence of digestive disturbances.

Either Plain or Chocolate Flavored Ovaltine may be chosen according to preference, both varieties being similar in their wealth of nutrients. Children especially like the chocolate-flavored variety.

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Three Servings of Ovaltine in Milk Recommended for Daily Use Provide the Following Amounts of Nutrients

(Each serving made of ½ oz. of Ovaltine and 8 fl. oz. of whole milk)

MINERALS		VITAMINS	
*CALCIUM	1.12 Gm.	*ASCORBIC ACID	37 mg.
CHLORINE	900 mg.	BIOTIN	0.03 mg.
COBALT	0.006 mg.	CHOLINE	200 mg.
*COPPER	0.7 mg.	FOLIC ACID	0.05 mg.
FLUORINE	3.0 mg.	*NIACIN	6.7 mg.
*IODINE	0.7 mg.	PANTOTHENIC ACID	3.0 mg.
*IRON	12 mg.	PYRIDOXINE	0.6 mg.
MAGNESIUM	120 mg.	*RIBOFLAVIN	2.0 mg.
MANGANESE	0.4 mg.	*THIAMINE	1.2 mg.
*PHOSPHORUS	940 mg.	*VITAMIN A	3200 I.U.
POTASSIUM	1300 mg.	VITAMIN B_{12}	0.005 mg.
SODIUM	560 mg.	*VITAMIN D	420 I.U.
ZINC	2.6 mg.		

*PROTEIN (biologically complete)	32 Gm.
*CARBOHYDRATE	65 Gm.
*FAT	30 Gm.

*Nutrients for which daily dietary allowances are recommended by the National Research Council.

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Even scratches may become infected if they do not receive proper care.

The 2% aqueous solution of 'Mercurochrome', one of the best antiseptics for first aid, can be safely applied to wounds.

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Doctors have used 'Mercurochrome' for more than thirty years.

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